

560 GOLDEN RIDGE ROAD, SUITE 130, GOLDEN, CO 80401

**TECHLAW INC.**

PHONE: (303) 763-7188  
FAX: (303) 763-8889

November 21, 2002

Ms. Young Chong  
Technical Manager  
U.S. Army Corps of Engineers - Sacramento District  
1325 J Street  
Sacramento, CA 95814-2922

**RE: GSA Order No. T0901BH0732; Client Order No. 9T1N005PG; Federal Supply  
Schedules GS-10F-0168J; Transmittal of Final CTT Report, Tooele Army Depot,  
UT**

Dear Ms. Chong:

Enclosed for your review is one copy of the Final CTT Range/Site Inventory Report for the installation listed above. We have submitted an additional three copies of the Final Report as noted below.

If you have any questions or comments concerning this submittal, please call me at (303) 763-8881.

Sincerely,

Gene Barber  
Project Manager

enclosure

cc: Mr. Larry McFarland, Environmental Engineer, Tooele Army Depot (1 copy)  
Mr. Samuel Bryant, Army Environmental Center (2 copies)

IF: 01099.005



**FINAL**  
**U.S. ARMY CLOSED, TRANSFERRING and TRANSFERRED**  
**RANGE/SITE INVENTORY**  
**for**  
**TOOELE ARMY DEPOT, UT**

**November 2002**

**Prepared for**

**U.S. Army Environmental Center**  
**and**  
**U.S. Army Corps of Engineers,**  
**Sacramento District**

**Prepared by**

**TechLaw, Inc.**

**560 Golden Ridge Road, Suite 130**

**Golden, CO 80401-9532**

## **ABBREVIATIONS / ACRONYMS**

AEC	Army Environmental Center
A/I	Active/Inactive
APG	Aberdeen Proving Grounds
ARID	Army Range Inventory Database
ARNG	Army National Guard
ARS	Advance Range Survey
ASR	Archive Search Report
BRAC	Base Realignment and Closure
CADD	Computer Aided Drafting and Design
CTC	Cost to Complete
CTT	Closed/Transferring/Transferred
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DOE	Department of Energy
DSERTS	Defense Site Environmental Restoration Tracking System
EOD	Explosive Ordnance Disposal
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
GIS	Geographic Information System
IRP	Installation Restoration Program
MACOM	Major Command
MC	Munitions Constituents
MMRP	Military Munitions Response Program
NGB	National Guard Bureau
OB	Open Burning
OD	Open Detonation
PM	Project Manager
POC	Point of Contact
QA	Quality Assurance
QC	Quality Control
RAC	Risk Assessment Code
RC	Response Complete
RMIS	Restoration Management Information System
STARC	State Area Command
SWD	Southwestern Division
TIC	Technical Information Center
U.S.	United States
USACE	United States Army Corps of Engineers
USARC	United States Army Reserve Command
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance

## **SITE SPECIFIC ABBREVIATIONS / ACRONYMS**

AMC	Army Materiel Command
Col	Colonel
CS	Tear Gas
DODIC	Department of Defense Identification Code
IR	Installation Restoration Program
LCL	Less than a Carload
MR	Military Munitions Response Program
NA	North Area
OE	Ordnance and Explosives
RCRA	Resource Conservation and Recovery Act
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine or Royal Demolition Explosive
SDZ	Surface Danger Zone
SWMU	Solid Waste Management Unit
TEAD	Tooele Army Depot
TNT	Trinitrotoluene



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## **EXECUTIVE SUMMARY**

### **Purpose of the Closed, Transferring, and Transferred (CTT) Inventory**

To meet immediate, short-term, and long-term needs, the United States (U.S.) Army is conducting its Range Inventory in three phases. The first phase (Phase 1) involved a data call issued to each U.S. Army Major Command (MACOM) requesting general information about ranges on their installations. This phase was also referred to as the Advance Range Survey (ARS). The ARS allowed the Army to meet its immediate needs; however, a more detailed inventory was necessary. The Army decided to divide the detailed follow-on inventory into two parts, an active and inactive (A/I) inventory (Phase 2) and a closed, transferring, and transferred (CTT) inventory (Phase 3).

The results of the Phase 2 inventory for the installation were documented in an A/I range inventory binder submitted to the Army Environmental Center (AEC), the respective MACOM, and the installation. The Phase 2 binder contains maps that delineate the A/I range boundaries. The remainder of the property inside the installation's boundary is designated as non-A/I property by default. If the Phase 2 inventory was conducted at an installation, the complex maps and partial data were provided to the Phase 3 team prior to the start of the data collection effort.

This Phase 3 inventory began as an inventory of just Army CTT ranges. However, as a result of the congressional requirements outlined in the Defense Authorization Act of 2002 (Public law 107-107) and resultant changes to the Defense Environmental Restoration Program (DERP), the Phase 3 Inventory is a comprehensive history of both CTT ranges and other CTT sites with unexploded ordnance (UXO), discarded military munitions (DMM) and munitions constituents (MC). All locations previously or currently owned, leased or possessed by the DoD (except those currently classified as A/I ranges, or permitted military munition treatment and/or disposal facilities) are included in this inventory. The U.S. Army Corps of Engineers (USACE) is the predominant executors of the Phase 3 inventory. The inventory specifically focused on the non-A/I areas as defined in Phase 2 and areas around the installation that may have been used in the past for munition-related testing or training.

Specific requirements of the Phase 3 inventory included: 1) mapping out the CTT ranges and sites with UXO, DMM or MC, 2) collecting and preparing data to be uploaded into the Army Range Inventory Database (ARID), 3) conducting an assessment of explosives safety risk using the Risk Assessment Code (RAC) methodology for each CTT range or site with UXO or DMM identified in the inventory, and 4) determining which sites on the inventory qualify for the Military Munition Response Program (MMRP).

The primary part of the data collection portion of the Phase 3 inventory for Tooele Army Depot (TEAD) was conducted beginning July 8, 2002, and involved a four day visit to TEAD. While on site, the data collection team reviewed historical records and interviewed installation personnel concerning potential CTT ranges, disposal areas,

and other UXO or MC sites. This report summarizes the research conducted at TEAD and other record repositories, and the results of the research.

### Purpose of the Range Inventory Report

The purpose of this report is to present the results of the Phase 3 CTT Inventory. The report includes two individual CTT maps for the installation, a copy of the data tables that will be submitted electronically to AEC for uploading into the ARID, completed RAC worksheets for all CTT ranges and sites with UXO or DMM, DERP eligibility determination, and identification of which ranges/sites qualify for the MMRP. Although the inventory did not require exhaustive archive searches to be performed, it did require historical research to identify sites subject to this inventory, locations, periods of use, the types of munitions used, and other specific information regarding the site. The majority of this data was obtained by reviewing installation records and interviewing personnel at, or involved with, the installation. Although the data presented in this report is believed to be accurate, it has not been verified by field sampling.

### Summary of Results

Tooele Army Depot is comprised of a total of 23,732 acres, of which 1,456.86 acres are classified as A/I (from Phase 2). The Phase 3 Inventory identified one transferred range, a Chemical Range, consisting of 9 acres; one transferred munitions site, an OB/OD Area, totaling 478 acres; and 4 closed munitions sites totaling 776 acres.

As part of the inventory, the data collection teams performed an assessment of explosives safety risk using the RAC process for each range and site with UXO and DMM in the CTT inventory. The RAC process requires the completion of a worksheet that consists of a series of questions regarding the area. Based on the results of the worksheet, a relative overall score (RAC score) for each area is assigned. The RAC score is an estimate of the relative explosives safety risk, which is reported as a number from 1 (high explosives safety risk) to 5 (negligible explosives safety risk).

The results of the CTT Inventory for this installation are summarized in Table ES-1 below.

**Table ES-1: CTT Range and Site**

Installation and Range / Site Name	Classification	Total Area (Acres)	Munitions Type(s)	Munition Constituents	RAC Score <sup>1</sup>	DERP Eligibility <sup>2</sup>
TOOELE ARMY DEPOT BUILDING 539 DISPOSAL AREA	CLOSED	97	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS  BOMBS, HIGH EXPLOSIVE	YES	1	MR

Installation and Range / Site Name	Classification	Total Area (Acres)	Munitions Type(s)	Munition Constituents	RAC Score <sup>1</sup>	DERP Eligibility <sup>2</sup>
TOOELE ARMY DEPOT						
			FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)			
			HAND GRENADES, LIVE			
			LANDMINES, ANTI- PERSONNEL			
			LARGE CALIBER (37MM AND LARGER), HE			
			MEDIUM CALIBER (20MM, 25MM, 30MM), HE			
			MORTARS, HE			
			SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)			
			SMALL ARMS (COMPLETE ROUNDS)			
CHEMICAL RANGE	TRANSFERRED	9	BOMBS, (SMOKE, WP, INCENDIARY, PHOTOFLASH)	UNKNOWN	2	MR
			FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)			
			HAND GRENADES (SMOKE, WP, INCENDIARY)			
			PYROTECHNICS			
			RIOT CONTROL AGENTS			
NE DEMIL AREA	CLOSED	626	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	UNKNOWN	2	MR
			HAND GRENADES, LIVE			
			SMALL ARMS			
OB/OD AREA	TRANSFERRED	478	AERIAL ROCKETS (LIVE)	UNKNOWN	2	MR
			BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS			
			BOMBS, HIGH EXPLOSIVE			
			DETONATORS			
			HAND GRENADES, LIVE			
			LARGE CALIBER (37MM AND LARGER), HE			

Installation and Range / Site Name	Classification	Total Area (Acres)	Munitions Type(s)	Munition Constituents	RAC Score <sup>1</sup>	DERP Eligibility <sup>2</sup>
TOOELE ARMY DEPOT						
			MEDIUM CALIBER (20MM, 25MM, 30MM), HE			
			MORTARS, HE			
			PROPELLANTS (SOLID, LIQUID)			
			SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)			
			SMALL ARMS			
OLD BURN AREA	CLOSED	51	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	YES	2	MR
			DETONATORS			
			FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)			
			HAND GRENADES, LIVE			
			PROPELLANTS (SOLID, LIQUID)			
			SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)			
			SMALL ARMS			
OLD BURN STAGING AREA	CLOSED	2	NONE	N/A	N/A	IR
<sup>1</sup> N/A indicates that the site is a Munitions Constituent (MC) site and therefore, RAC scores have not been prepared.						
<sup>2</sup> MR = Military Munitions Response Program; IR = Installation Restoration Program.						
Note: A TD at the end of the Range/Site name indicates a Transferred portion of a site. If a site extends past the installation boundary and is therefore identified as transferred, that transferred portion is given the same name as the site within the installation boundary and a "TD" is added to the end to indicate that it has been identified as transferred.						

## **A. INTRODUCTION**

The United States (U.S.) Army is in the process of inventorying all of its past and current ranges to support its Range Sustainment Program and MMRP. The Army is conducting the inventory in three phases. The first and second phases only address properties meeting the definition of a range. The third and final phase involves an inventory of closed, transferring and transferred (CTT) ranges and sites with unexploded ordnance (UXO), discarded military munitions (DMM), and munition constituents (MC). Both ranges and other sites with explosive hazards, such as UXO or munition disposal areas, are included.

This report documents the results of the Phase 3 Inventory conducted for Tooele Army Depot (TEAD or Tooele) located in Tooele County, Utah.

The following paragraph briefly describes the general location for the installation with CTT Ranges, or UXO-DMM-MC sites associated. A more detailed installation description is located in Tab C of this report.

Tooele Army Depot is located in central Utah in Tooele County, Township 4 South, Range 4 West, approximately 35 miles southwest of Salt Lake City. The nearest town is Tooele.

### **Background**

To meet immediate, short-term, and long-term needs, the Army is conducting its Range Inventory Program in three phases. The first phase (Phase 1) involved a data call issued through the Army Environmental Center (AEC) requesting general information about ranges on various installations under each U.S. Army Major Command (MACOM). The Phase 1 inventory was conducted using a questionnaire called the Advance Range Survey (ARS). The purpose of the ARS was to allow the Army to meet the short-term data goal of supporting the Department of Defense (DoD) preparation of Senate Report 106-50.

ARS information for Tooele was submitted to AEC and compiled into a master database of U.S. Army installations. The ARS identified 906 acres of A/I ranges and three closed ranges comprising 1,500 acres.

The ARS allowed the Army to meet its short-term needs; however, the Army's long-term needs required a more detailed inventory of its ranges that was not achievable through the ARS. For management and budgetary reasons, the Army divided the detailed follow-on inventory into two phases. The Phase 2 Inventory included active and inactive (A/I) ranges, while Phase 3 covers CTT ranges and sites with UXO, DMM, or MC.

The Phase 2 Inventory was conducted by AEC through an Army contractor, and the results were documented in an A/I range inventory binder that was submitted to AEC, Army Materiel Command (AMC) MACOM, and Tooele Army Depot. The Phase 2

binder contains maps that delineate the A/I range boundaries. The remainder of the property inside the installation's boundary is designated as non-A/I property by default. As part of the effort, the inventory data was electronically uploaded into the Army Range Inventory Database (ARID) maintained by AEC. Phase 2 data relating to the locations of the A/I and non-A/I area was provided to the Phase 3 team prior to its data collection effort at Tooele Army Depot. The results from the Phase 2 Inventory (A/I areas and acreage total) are included on the Phase 3 maps and mentioned in the report, where applicable, to provide the reader with a snap shot of the entire range area associated with Tooele Army Depot. The reader should refer to the Phase 2 range binder for specifics on the A/I inventory.

This Phase 3 inventory includes all CTT ranges and UXO, DMM, and MC sites that are no longer used, leased or operational for the Army or DoD. Properties currently classified as operational (A/I) ranges or permitted military munitions treatment and/or disposal facilities are excluded. Closed ranges and sites are no longer in use, but are still located on current Army property. Transferred ranges and sites are no longer in use and are located on property that is no longer under military control. A range or site is referred to as transferring if it is no longer being used and is proposed for imminent release from military control. Although it would appear that transferred sites would be addressed by the Formerly Used Defense Site (FUDS) Program, they are addressed by this inventory if they were excessed after 1986 or not currently included in the FUDS inventory.

A site visit was conducted from July 8-11, 2002 to collect the Phase 3 CTT range and site inventory data. While on site, the data collection team reviewed historical records and interviewed installation personnel concerning CTT ranges and sites. The Phase 3 Inventory is specifically focused on the non-A/I range areas (as defined in the Phase 2 Inventory) and on areas outside the current installation boundary that may have been used in the past for munitions-related disposal, testing, or training. This report summarizes the Phase 3 Inventory conducted at Tooele Army Depot and presents the results. The report contains printed copies of the data that will be delivered to AEC for uploading into the ARID.

The inventory itself represents a summary or snap shot in time of the amount of area associated with U.S. Army munitions disposal, training and testing and should be updated as the Army changes its use of training ranges or gathers additional data over time.

### **Project Drivers**

There are several drivers for the Phase 3 Inventory, including the Defense Environmental Restoration Program (DERP), as amended by the Defense Authorization Act of 2002 (Public Law 107-107, signed into law January 2002); federal financial accounting standards; and DoD guidance. The most important driver is the DERP. DERP requires that an "inventory of defense sites that are known or suspected to contain UXO, DMM, or MC" be conducted and completed by May 31, 2003. The revised Management Guidance for the DERP (September, 2001) created the MMRP

and outlines the specific program requirements for the CTT Inventory. Federal financial accounting standards require the DoD to determine the estimated cost of clean up of sites under the MMRP and report this cost in its annual financial statements. A complete inventory of CTT ranges and other sites with UXO, DMM and MC will ensure that future financial reporting estimates are defensible and supported by accurate data.

### **Report Objectives**

The objective of this report is to present the results of the Phase 3 CTT Inventory for this installation. Although this assignment did not require an exhaustive archive search to be performed, it did require historic research to identify CTT ranges and sites subject to this inventory, locations, period of use, and associated types of UXO or MC. The majority of this data was obtained by reviewing installation records and interviewing personnel at, or involved with, the installation. Although the data presented in this report is believed to be accurate, it has not been verified by field sampling.

### **Project Participants**

AEC is the Program Manager for the Army's Phase 3 CTT Inventory. AEC provides overall management and guidance, identifies significant issues, develops and maintains ARID, defines achievable schedules and milestones, coordinates with relevant U.S. Army organizations, and reports on the inventory's status. The Project Manager (PM) for AEC is Ms. Mary Ellen Maly.

The U.S. Army Corps of Engineers (USACE) is the executing organization for the Phase 3 Inventory and was responsible for conducting the record searches; gathering, compiling, and validating data; and submitting the validated data to AEC in the specified file formats. USACE-Sacramento District was responsible for completing the Phase 3 Inventory for Tooele Army Depot. The PM for USACE Sacramento is Ms. Young Chong.

TechLaw, Inc., under contract with the USACE Sacramento District, provided personnel to assist the USACE in collecting and analyzing inventory data and documenting the results. The data collection Team Leader for Tooele Army Depot was Mr. Jeff Lamontagne.

Tooele Army Depot offices and personnel were contacted and interviewed as part of the CTT Inventory. The primary POC for the Phase 3 Inventory at Tooele was Mr. Larry McFarland, Restoration Manager in the Environmental Division.

Other major resources evaluated during TechLaw's research were project files in the USACE-Sacramento offices, and the National Archives and Records Administration, Rocky Mountain Region.



## **B. DEFINITIONS AND DATA REQUIREMENTS**

Before the results of the inventory can be presented, the reader must have an understanding of the definitions and data requirements associated with the inventory. This section outlines the definitions used in the inventory and the data requirements established by the Army.

### **Inventory Definitions**

The following definitions are applicable to the Army's Range Inventory Program.

<b>Active Range:</b>	A military range that is currently in service and is being regularly used for range activities. For purposes of the inventory, "in service" is defined as currently in operation, construction, maintenance, renovation, or reconfiguration to meet current Army training and/or test requirements. An active range qualifies as an operational range.
<b>Base Realignment and Closure (BRAC):</b>	A DoD program that focuses on compliance and cleanup efforts at military installations undergoing closure or alignment, as authorized by Congress in four rounds of base closures for 1988, 1991, 1993, and 1995. A BRAC parcel is eligible for the MMRP if the release occurred prior to September 30, 2002; the release is not an operational range, FUDS, active munitions demilitarization facility, or active WMM treatment or disposal unit that operated after September 30, 2002; and the site was not identified or included in the RMIS prior to September 30, 2002.
<b>Closed Range:</b>	A military range that has been taken out of service as a range and that either has been put to new uses that are incompatible with range activities or is not considered by the military to be a potential range area. A closed range is still under the control of a DoD component. Closed ranges cannot occupy an area that has been identified as an A/I range. Closed ranges are those areas of land that used to be operational, are still owned by the Army, but are now used for non-range purposes.
<b>Defense Site:</b>	Locations that are or were owned by, leased to, or otherwise possessed or used by the DoD. Does not include: operational ranges, operating storage or manufacturing facilities or facilities that are or were permitted for the treatment or disposal of military munitions.
<b>Defense Site Environmental Restoration Tracking System (DSERTS) Site:</b>	A site included in the Army's DSERTS database. DSERTS is the database the Army uses to track Installation Restoration Program (IRP) sites under the Defense Environmental Restoration Program (DERP).

<b>Discarded Military Munitions (DMM):</b>	MM that have been abandoned without proper disposal or that have been removed from storage in a military magazine or other storage facility for the purpose of disposal. Does not include: unexploded ordnance or MMs that are being held for use or planned disposal or ones that have been properly disposed.
<b>Formerly Used Defense Site (FUDS):</b>	A DoD program that focuses on compliance and cleanup efforts at sites that were formerly used by the DoD. A FUDS property is eligible for the MMRP if the release occurred prior to October 17, 1986; the property was transferred from DoD control prior to October 17, 1986; and the property or project meets other FUDS eligibility criteria.
<b>Inactive Range:</b>	A military range that is not currently being used, but that is still considered by the Army to be a potential range area, and that has not been put to a new use that is incompatible with range activities. An inactive range qualifies as an operational range.
<b>Military Munitions (MM):</b>	All ammunition products and components produced or used by or for the DoD or the U.S. Armed Services for national defense and security, including MM under the control of the DoD, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. MM do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include nonnuclear components of nuclear devices, managed under DOE's nuclear weapons program, after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.
<b>Military Range:</b>	A designated land or water area set aside, managed and used to conduct research on, develop, test, and evaluate MMs and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with

restricted access and exclusionary areas.

**Munitions Constituents (MC):**

Any materials that originate from UXO, DMM or other MM, including explosive and non-explosive materials, and emission, degradation or breakdown elements of such ordnance or MM.

**Operational Range:**

A military range that is currently in service and is being regularly used for range activities, or a military range that is not currently used, but that is still considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities. Active and inactive ranges qualify as operational ranges.

**Restoration Management Information System (RMIS) Site:**

A site included in the DoD's RMIS database. Includes any building, structure, impoundment, landfill, storage container, or other site or area where a hazardous substance was or has come to be located. Installations and ranges may have more than one site.

**Transferred Range:**

A military range that is no longer under military control and had been leased, transferred, or returned by DoD to another entity, including Federal entities. This includes a military range that is no longer under military control, but that was once used by the Army. This includes use under the terms of an executive order, special-use permit or authorization, right-of-way, public land order, or other instrument issued by the Federal land manager.

**Transferring Range:**

A military range that is proposed to be leased, transferred, or returned by the DoD to another entity, including Federal entities. This includes a military range that is used under the terms of a withdrawal, executive order, special-use permit or authorization, right of way, public land order, or other instrument issued by the federal land manager or property owner. A range will not be considered a "transferring range" until the transfer is imminent.

**Unexploded Ordnance (UXO):**

MM that have been primed, fused, armed, or otherwise prepared for action; have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and remain unexploded either by malfunction, design, or any other cause.

### **Inventory Data Requirements**

The goal of the inventory was to identify locations, periods of use, and types of munitions used on CTT ranges and sites with UXO, DMM or MC associated with the installation. Specific requirements included: 1) mapping out the CTT ranges and sites with UXO, DMM and MC, 2) collecting and preparing data to be uploaded into ARID, 3) conducting an assessment of explosives safety risk using the Risk Assessment Code (RAC) methodology for each CTT range and UXO or DMM site identified in the inventory, and 4) determining which sites on the inventory qualify for the MMRP. A RAC analysis is not done for a MC site. Descriptions of the data requirements for the maps, ARID, and the RAC methodology are outlined below.

### **Range and Site Map Requirements**

An individual CTT map was generated for the Phase 3 Inventory of the installation. The individual CTT map shows all the range/site areas associated with the installation, including the A/I range areas (from Phase 2); closed, transferred, and transferring sites; and the non-range, non-UXO, DMM, and MC areas. An electronic version (.pdf file) of the map has been provided as an upload to the ARID. The individual CTT map for the installation is included in this section.

### **ARID Data Requirements**

The Phase 3 inventory data is driven by the requirements of ARID. The ARID Upload Instructions (19 September 2002) outlines the minimum data elements required for completing the range inventory. According to the instructions, the following files are required for the inventory:

- Points of Contact
- Installation
- Range
- Munitions
- Ownership
- Land Use Restrictions and Access Controls
- Range Demographics
- Map
- RMIS Site Information
- DSERTS Site Information

A printed copy of each file submitted to ARID is provided in Section F.

### **Risk Assessment Code Methodology**

The inventory team was required to perform an explosives safety risk assessment on each CTT range and UXO or DMM site identified in the inventory. Sites that have been identified as MC only sites, do not require scoring using the RAC methodology. The RAC methodology is a process that USACE designed to evaluate the relative explosive risk associated with past ordnance-related disposal, testing or training. The RAC score assists in prioritizing and sequencing projects. The RAC process is

described in Appendix B of USACE Engineering Pamphlet 1110-1-18, Ordnance and Explosive Response (24 April 2000) and referenced in the updated management guidance for the DERP. The analysis involves a worksheet that, when completed, assigns a relative score (RAC score) to the sites. The RAC score is a number from 1 (highest explosives safety risk) to 5 (negligible explosives safety risk). A summary of the calculated RAC scores and the completed RAC worksheets are included in Section G.

### **DERP Eligibility Determination**

The inventory team was required to determine the DERP eligibility of each range/site included in the inventory. This is done to ensure ranges/sites are not double counted if already included under the Installation Restoration Program (IRP). It is also performed to ensure only ranges with UXO, DMM, and MC meeting the requirements identified in the DERP Management Guidance, September 01, are included in the MMRP. Results of the DERP eligibility determination include IRP, MMRP, or other (not eligible). To make this determination the following must be considered:

- If the site has a DSERTS Site ID,
- If the current DSERTS cost to complete (CTC) includes a response to all UXO, DMM, and MC, or
- If the DSERTS site has a BRAC UXO flag, and
- When applicable, if the DSERTS site is listed as response complete (RC) because of ineligibility of funding due to UXO or munitions.

After the determination of whether the range/site, including its associated UXO, DMM, and MC aspects, is currently covered under the IRP, it must be determined if the range/site is eligible for the MMRP. If the range/site is not currently covered under IRP, and it not eligible for the MMRP, it should be classified as "other." As appropriate, based on the eligibility determination, RMIS range ID and RMIS site ID numbers are then assigned.

## **C. INSTALLATION SUMMARY**

This section provides a brief summary of the history of the installation and a summary of the data collection portion of the Phase 3 inventory, including the types of records reviewed and personnel contacted.

### **Installation Overview and Description**

Originally known as Tooele Ordnance Depot, TEAD lies in central Utah, approximately 35 miles southwest of Salt Lake City, Utah. TEAD was established in 1942 as a storage depot for supplies, munitions, and combat vehicles. In 1947, TEAD was designated as a subdepot of Ogden Arsenal. In 1949, TEAD was redesignated as a full depot and assumed command of Ogden Arsenal (renamed subdepot), and Deseret Chemical Depot, which was recently known as Tooele Army Depot-South Area. Tooele retained command of Ogden Subdepot until it closed in 1955, and Deseret Chemical Depot until 1996. Beginning in 1973, several depot satellites were added to TEAD's command, including Umatilla Depot Activity, Oregon, Navajo Depot Activity, Arizona, Fort Wingate, New Mexico, and Pueblo Depot Activity, Colorado. Key components of TEAD's mission have changed over time, yet the central mission of storage of munitions has not changed. The Depot's present mission includes conventional munitions storage, maintenance, and demilitarization. There are approximately 920 storage igloos, above ground magazines and buildings located on site. TEAD is a Tier 1 ammunition storage site responsible for storing training munitions and war reserve munitions. Major tenants of TEAD include the U.S. Army Health Clinic, Company C; 4th Light Armored Reconnaissance Battalion; 4th Marine Division; Utah National Guard; DOD Printing Service; and 62nd Ordnance EOD Company.

### **Contractor Team Composition**

The Phase 3 Range/Site Inventory contractor team (CTT Team) for TEAD was represented by TechLaw, Inc. (TechLaw). TechLaw, under contract to the U.S. Army Corps of Engineers (USACE), Sacramento District, is inventorying the Army's CTT Ranges for the southwestern United States, Alaska, and Hawaii. The Phase 3 Team Leader for TEAD was Mr. Jeff Lamontagne. Team members included Mr. Scott Sutton and Ms. Coriann Nagasawa as researchers. Additional team members included Mr. Gene Barber as the Project Manager, Mr. Keith Willis as the GIS Specialist, Mr. Leo Oserow as the Quality Assurance/Quality Control Manager, and Mr. Todd Hunter as the Database Coordinator.

### **Installation Points of Contact (POCs)**

The primary Phase 3 Inventory POC for TEAD was Mr. Larry McFarland, Chief, Environmental Division, Tooele Army Depot. A complete list of contacts, in addition to Mr. McFarland, is provided in Tab I of this report.

## **Nature of Data Collection and Coordination**

Each installation is unique in terms of the amount and quality of data available regarding CTT ranges and UXO-DMM-MC sites, as well as the experience and knowledge of the personnel available for interviews. The data collection team attempts to contact as many applicable offices and review as many record repositories as possible during the site visit and at applicable off-site data repositories. The data collection team had access to records, reports, maps, and interviews at the following offices and departments: Ammunition Peculiar Equipment Division, Ammunition Operations Division, Real Estate/Master Planning Office, Environmental Office, and the Department of Public Works. Specific records and maps reviewed and personnel interviewed are listed in the document log in Tab I.

## **Summary of Critical Data Sources**

Certain data sources (records and interviews) proved to be of particular value and interest to the data collection team and were critical in the development of the Phase 3 Inventory. The following is a summary of those critical data sources. The Phase 3 Team conducted preliminary research at USACE-Sacramento, the National Archives and Records Administration in Denver, Colorado, and various offices at TEAD. Numerous documents and maps proved to be helpful in defining historical ranges.

The Phase 3 Team conducted the TEAD installation visit during the week of July 8, 2002. Initially, the Phase 3 Team provided an in-brief to Mr. Larry McFarland and representatives from various other offices at TEAD to explain the purpose and scope of the inventory. The Phase 3 Team members conducted research at TEAD and reviewed and collected various documents and maps from the Range Control Office, Real Estate Office, Engineering Office, and Environmental Branch. During the document collection process, the contacts from various offices were interviewed for additional information. Interviewees also provided information regarding historical operations and ranges at TEAD. A list of documents used to compile this report and a complete list of contacts are provided in Tab I of this report.

There was no small set of documents that were significantly more useful than others. Numerous maps and reports collected at USACE-Sacramento showed the location of both A/I and potential CTT ranges, and environmental reports discussed the operations in those areas in detail.

Helpful documents collected at TEAD included several old maps of the installation, as well as installation environmental characterizations that included descriptions of the possible CTT ranges. Detailed reports of each area of concern on the installation had been prepared, and included helpful maps and operational of areas contaminated with UXO or MC.

## D. INSTALLATION CTT RANGE AND SITE DATA

This section presents the CTT ranges and sites with UXO, DMM or MC on or associated with the installation. It includes a summary of the total range/site area in acres, a summary of each individual CTT range/site, a table listing the details of each CTT range/site, a table with ownership and accessibility information, and a table illustrating the DERP eligibility determination.

It should be noted that some of the GIS data for the ranges/sites identified in this report were developed as a result of digitizing features from historic maps, or from assumptions that were developed from analysis of historic documents and from interviews with individuals knowledgeable about the range/site operations. In these cases, the acreage for the ranges/sites was obtained from the GIS data and may not precisely match source documents. In all cases, an attempt was made to verify acreage utilizing documents obtained from the real property offices of the installation or the USACE, and/or previously compiled environmental reports. If the exact acreage for a range/site was identified in supporting documentation, that acreage is reported below.

### Summary of CTT Range and UXO, DMM and MC Sites

The following is a summary of the range/site area at Tooele Army Depot:

A/I Range Area - 1,456.86 acres (from Phase 2)

CTT Range/Site Area - 1,263 acres

Total Range/Site Area - 2,719.86 acres

**Table D-1: Ownership Summary Table**

INSTALLATION NAME	RANGE / SITE NAME	OWNER	CTT ACREAGE
TOOELE ARMY DEPOT	BUILDING 539 DISPOSAL AREA	DOD	97
	CHEMICAL RANGE	FEDERAL AGENCY	9
		PRIVATE SECTOR	
		STATE AGENCY	
	NE DEMIL AREA	DOD	626
	OB/OD AREA	FEDERAL AGENCY	478
		LOCAL GOVERNMENT	
		PRIVATE SECTOR	
	OLD BURN AREA	DOD	51
	OLD BURN STAGING AREA	DOD	2
TOTAL			1263

### CTT Range and Site Summaries

Below are summaries for the individual CTT ranges and/or sites inventoried at the installation. Each summary includes a brief history of the area, total acreage, relative location, types of ordnance used or discarded, periods of use, information on any UXO responses conducted, and current usage. Only the non-A/I range area is



reported to ARID to avoid duplicate Phase 2 and 3 reporting. The level of detail reported in these summaries is based on the level of data available. The ranges/sites are listed in alphabetical order.

**BUILDING 539 DISPOSAL AREA**--This is a closed munitions site, still owned by the U.S. Army, comprising 97 acres in the east-central part of the installation. A variety of munitions, including bombs, smokes, grenades, land mines, medium and large caliber munitions, small arms, mortars, fuzes, and secondary explosives, were demilitarized or disposed in the area around this building from approximately 1942 to 1972. This site is not currently being used except for survey and cleanup operations. The Installation Restoration program will clean up only a small portion of this site, including a now-evaporated washout pond and the ditch that carried wastewater to it, and any UXO that is found incidental to the cleanup of the pond and the ditch.

**CHEMICAL RANGE**--This is a transferred range, owned by private, state, and federal parties, comprising 9 acres to the south of the installation. Smokes, smoke bombs, pyrotechnics, riot control agents, and smoke hand grenades were tested at the Chemical Range between approximately 1942 to 1972. The area of this range is the area where the safety fan extends offsite. Although the range may qualify as FUDS property, it is not currently included on the FUDS inventory, and therefore is inventoried here. This land is currently undeveloped, but is used for grazing purposes. There have been no known UXO responses on these 9 acres.

**NE DEMIL AREA**--This is a closed munitions site, still owned by the U.S. Army, comprising 626 acres in the northeast part of the installation. Fuzes, hand grenades, and small arms have been found in this crater, where munitions were demilitarized from approximately 1953 to 1966. This land remains generally undeveloped, although part of the safety fan covers the revetment area in the northern part of the installation. The central demil crater has been surveyed for munitions, but a systematic cleanup has not been initiated.

**OB/OD AREA**--This is a transferred disposal site, owned by private, county, and federal parties, comprising 478 acres to the southwest of the installation. Munitions including rockets, bombs, grenades, medium and large caliber munitions, mortars, propellants, and small arms were burned or detonated in the OB/OD area on the installation beginning in 1942. Kickouts from operations in the OB/OD Area within the installation went into this area from 1942 until approximately 1995. The OB/OD kickouts are the only known source of munitions in this area. Although the disposal site may qualify as FUDS property, it is not currently included on the FUDS inventory and therefore is inventoried here. A portion of this area near the installation boundary has been surveyed and cleared of UXO, but not the entire area. The land is currently used for agricultural purposes or is undeveloped.

**OLD BURN AREA**--This is a closed munitions site, still owned by the U.S. Army, comprising 51 acres in the east-central part of the installation. Smokes, grenades, propellants, and small arms were demilitarized and disposed around this building from approximately 1942 to 1972. The only current operations in this area are grazing and remediation activities. The Installation Restoration project for this area is only intended to remediate a portion of the UXO at the site. Only UXO identified during the remediation of the specific areas of the site slated for cleanup will be removed.

**OLD BURN STAGING AREA**--This is a closed munitions constituents site, still owned by the U.S. Army, comprising 2 acres in the southern part of the installation. A variety of conventional and other munitions were stored in this area prior to their demilitarization in the Old Burn Area from approximately 1942 to 1972. The site has been cleared of munitions; however, recent surveys have noted munitions constituents in the area. Presumably, the munitions stored in this area are the same as those listed above for the Old Burn Area. The only current activity in this area is grazing; the land remains undeveloped. The Installation Restoration project associated with this site is intended to address the munitions constituents. The remedy for this project is a deed restriction that will be included in the installation Master Plan.

### CTT Range and Site Details Table

The CTT Range and Site Details Table (Table D-2) provides detailed information on the CTT areas included in the inventory.

**Table D-2: CTT Range and Site Details Table**

INSTALLATION AND RANGE / SITE NAME	CLASSIFICATION	TOTAL AREA (ACRES)	MUNITIONS TYPE(S)	MUNITION CONSTITUENTS	RAC SCORE*	HISTORIC USE
<b>TOOELE ARMY DEPOT</b>						
BUILDING 539 DISPOSAL AREA	CLOSED	97	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS  BOMBS, HIGH EXPLOSIVE  FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)  HAND GRENADES, LIVE  LANDMINES, ANTI- PERSONNEL  LARGE CALIBER (37MM AND LARGER), HE  MEDIUM CALIBER (20MM, 25MM, 30MM), HE	YES	1	OTHER

INSTALLATION AND RANGE / SITE NAME	CLASSIFICATION	TOTAL AREA (ACRES)	MUNITIONS TYPE(S)	MUNITION CONSTITUENTS	RAC SCORE*	HISTORIC USE
TOOELE ARMY DEPOT			MORTARS, HE SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.) SMALL ARMS (COMPLETE ROUNDS)			
CHEMICAL RANGE	TRANSFERRED	9	BOMBS, (SMOKE, WP, INCENDIARY, PHOTOFLASH) FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS) HAND GRENADES (SMOKE, WP, INCENDIARY) PYROTECHNICS RIOT CONTROL AGENTS	UNKNOWN	2	R&D BUFFER AREA
NE DEMIL AREA	CLOSED	626	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS HAND GRENADES, LIVE SMALL ARMS	UNKNOWN	2	OB/OD OTHER
OB/OD AREA	TRANSFERRED	478	AERIAL ROCKETS (LIVE) BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS BOMBS, HIGH EXPLOSIVE DETONATORS HAND GRENADES, LIVE LARGE CALIBER (37MM AND LARGER), HE MEDIUM CALIBER (20MM, 25MM, 30MM), HE MORTARS, HE PROPELLANTS (SOLID, LIQUID)	UNKNOWN	2	BUFFER AREA OB/OD

INSTALLATION AND RANGE / SITE NAME	CLASSIFICATION	TOTAL AREA (ACRES)	MUNITIONS TYPE(S)	MUNITION CONSTITUENTS	RAC SCORE*	HISTORIC USE
TOOELE ARMY DEPOT			SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)			
			SMALL ARMS			
OLD BURN AREA	CLOSED	51	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	YES	2	OB/OD
			DETONATORS			OTHER
			FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)			
			HAND GRENADES, LIVE			
			PROPELLANTS (SOLID, LIQUID)			
			SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)			
			SMALL ARMS			
OLD BURN STAGING AREA	CLOSED	2	NONE	N/A	N/A	OTHER

\* The RAC score is a prioritization and sequencing tool used to rank the explosives safety risk at a site; 1 is the highest explosives safety risk, 5 is the lowest explosives safety risk. The RAC score is discussed further in section G. The RAC Score is only developed for range, UXO and DMM sites, not MC sites.

The area data reported in the ARID is adjusted to account for CTT range and site overlaps with A/I range areas inventoried in Phase 2 to ensure that no area is reported more than once. By definition, if a portion of the CTT range/site is considered an A/I range and is reported in Phase 2, the range/site portion is not reported again in the Phase 3 acreage (where applicable).

### CTT Range and Site Ownership, Use and Access Control Summary Table

The Range and Site Ownership Table (Table D-3) provides a summary of the owner, current use and access restrictions associated with each CTT site in the inventory.

**Table D-3: CTT Range and Site Ownership, Use and Access Control Summary Table**

INSTALLATION NAME	RANGE / SITE NAME	OWNER	CURRENT USE	RESTRICTIONS
TOOELE ARMY DEPOT	BUILDING 539 DISPOSAL AREA	DOD	INDUSTRIAL/PRODUCTION FACILITIES	FENCES
	CHEMICAL RANGE	FEDERAL AGENCY	AGRICULTURAL W/O HOUSING	
			UNDEVELOPED	
		PRIVATE SECTOR		
		STATE AGENCY		
	NE DEMIL AREA	DOD	UNDEVELOPED	
	OB/OD AREA	FEDERAL AGENCY	UNDEVELOPED	
			AGRICULTURAL W/O HOUSING	
		LOCAL GOVERNMENT		
		PRIVATE SECTOR		
TOOELE ARMY DEPOT	OLD BURN AREA	DOD	UNDEVELOPED	
			AGRICULTURAL W/O HOUSING	
	OLD BURN STAGING AREA	DOD	UNDEVELOPED	

**DERP Eligibility Table**

The RMIS Information Table (Table D-4) and the DERP Eligibility Table (Table D-5) provide a summary of the process for determining a site's DERP eligibility. Specifically, the team determined if the site qualified for the MMRP, or if the site was already addressed under the Installation Restoration Program (IRP), and should remain under that program. For those sites that are not DERP eligible due to a lack of UXO, DMM or MC contamination (i.e. bayonet ranges, drop zones), the table identifies the DERP eligibility as "other."

**Table D-4: RMIS Information Table**

INSTALLATION AND RANGE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DSERTS RC FLAG	RC REASON	ACTIVE DSERTS PHASE(S)
TOOELE ARMY DEPOT						
BUILDING 539 DISPOSAL AREA	TEAD-58	N	N	N	N/A	REMEDIAL ACTION (CONSTRUCTION)

INSTALLATION AND RANGE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DSERTS RC FLAG	RC REASON	ACTIVE DSERTS PHASE(S)
<b>TOOELE ARMY DEPOT</b>						
CHEMICAL RANGE	N/A	N/A	N/A	N/A	N/A	N/A
NE DEMIL AREA	N/A	N/A	N/A	N/A	N/A	N/A
OB/OD AREA	N/A	N/A	N/A	N/A	N/A	N/A
OLD BURN AREA	TEAD-05	N	N	N	N/A	REMEDIAL ACTION (CONSTRUCTION)
OLD BURN STAGING AREA	TEAD-28	N	N	Y	STUDY COMPLETED, NO CLEANUP REQUIRED	N/A

**Table D-5: DERP Eligibility Table**

INSTALLATION	RANGE/SITE NAME	RANGE	DERP ELIGIBILITY <sup>1</sup>	RMIS RANGE ID	RMIS SITE ID
TOOELE ARMY DEPOT	BUILDING 539 DISPOSAL AREA	N	MR	TEAD-005-R	TEAD-005-R-01
	CHEMICAL RANGE	Y	MR	TEAD-003-R	TEAD-003-R-01
	NE DEMIL AREA	N	MR	TEAD-002-R	TEAD-002-R-01
	OB/OD AREA	N	MR	TEAD-001-R	TEAD-001-R-01
	OLD BURN AREA	N	MR	TEAD-004-R	TEAD-004-R-01
	OLD BURN STAGING AREA		IR	N/A	N/A

<sup>1</sup> MR = Military Munitions Response Program; IR = Installation Restoration Program.

## **E. CTT MAPS**

An individual CTT map was generated for the Phase 3 Inventory of this installation. The individual CTT map shows all the range/site areas associated with the installation, including the A/I range areas (from Phase 2); closed, transferring, and transferred ranges and/or UXO, DMM, or MC sites, and the non-range areas. The individual CTT map for the installation is included in this section.

Additionally, one Range Detail Map was generated for this installation. This map shows a close-up of an area of the installation where multiple ranges overlap. This map depicts the complete boundaries of these ranges in order to provide perspective on which areas overlap and which portions of these ranges overlap with the A/I area.

An electronic version (.pdf file) of the map has been provided as an upload to the ARID. The .pdf file included for upload to ARID is provided as follows:

- **TOOELE ARMY DEPOT - UT213820894\_CTT\_MAP\_01\_20021120.pdf**

# Range Details Map Tooele Army Depot, UT



## Legend

- Protection Boundary
- Road
- Contour Elevation (20m intervals)
- Water Bodies
- CTT Range Boundary
- Range or UXO-DMH-MC Status
- Administrative Area
- Closed
- Restricted
- Transient
- Non-Range, Non-UXO-DMH-MC Area

1:19,240

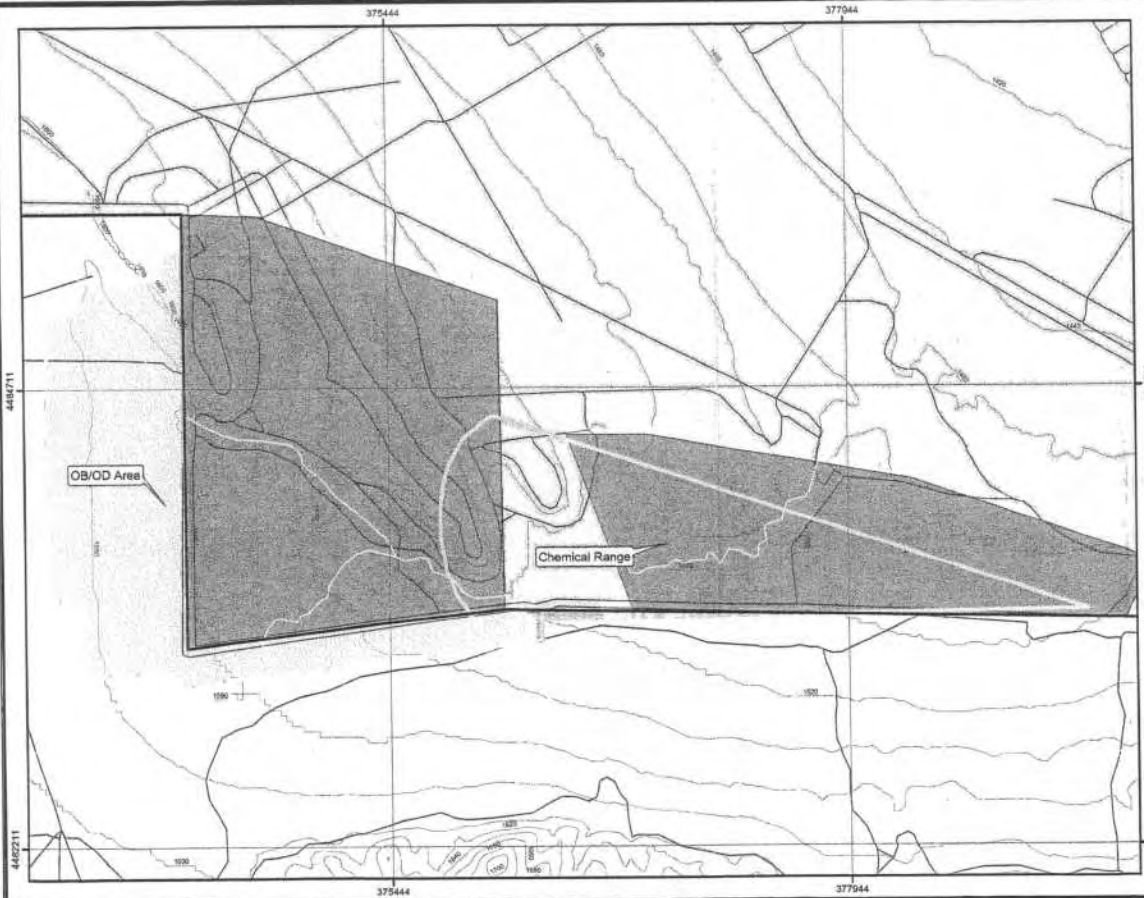


Spheroid	GRS1960
Grid	2,500 Meter UTM Zone 12
Projection	Transverse Mercator
Central Meridian	-111 Deg. W Longitude
Latitude of Origin	0 Deg. Latitude
Horizontal Datum	NAD83

## CTT Ranges, UXO-DMH-MC Sites Tooele Army Depot, UT

Source: Produced for the U.S. Army Corps of Engineers  
 Sacramento District by TechLyn, Inc. under GSA  
 contract T09029H-GATG, Client Order ID No. 671N00275.

Edition: Final Report  
 Date: November 2002





## **F. ARID DATA FILES**

This section contains a printout of the ARID data files submitted to AEC for the Phase 3 CTT Inventory for this installation. The files were set up according to the guidelines in the ARID Upload Instructions (19 September 2002). The following files are included:

- Points of Contact
- Installation
- Range
- Munitions
- Ownership
- Land Use Restriction and Access Controls
- Range Demographics
- RMIS Site Information
- DSERTS Information

**POC Table**

November 2002

INSTALLATION NAME	FFID	LAST NAME	FIRST NAME	POC TITLE	POC ORG
TOOELE ARMY DEPOT	UT213820894	McFARLAND	LARRY	RESTORATION MANAGER	TOOELE ARMY DEPOT

**POC TYPE:** CTT

PHONE	ADDRESS
PHONE 435-833-3235	BUILDING 8
DSN	TOOELE ARMY DEPOT
FAX	
EMAIL	TOOELE, UT 84074
	UNITED STATES

## **INSTALLATION**

November 2002

# **Installation Table**

<b>INSTALLATION NAME</b>	<b>FFID</b>	<b>MACOM</b>	<b>MSC</b>	<b>PARENT INSTALLATION</b>	<b>A/I RANGE</b>	<b>CTT RANGE</b>	<b>BRAC ROUND</b>	<b>DERA FLAG</b>	<b>FUDS FLAG</b>
TOOELE ARMY DEPOT	UT213820894	AMC	OSC		Y	Y	N/A	Y	N

## **RANGE AND SITE**

## Range Table

November 2002

RMIS RANGE ID: TEAD-005-R

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	BUILDING 539 DISPOSAL AREA	CLOSED	I	B	1

### RANGE DESCRIPTION

Building 539 was a demilitarization facility used from the early 1940s to the early 1960s, primarily to burn small arms projectiles. A popping furnace was among the machinery used in the building. All demilitarization took place inside the building. However, the area outside of the building is now contaminated with UXO and MC, as it was used extensively for disposal of popping furnace waste and demilitarized munitions. Munitions dumped in the area were not always demilitarized. For instance, popping furnace waste did not always explode prior to disposal.

It should be noted that historical documents discuss the fact that small arms were demilitarized in this building, and do not indicate anything about the demilitarization of other munitions, a wide variety of other munitions were found in the area.

CTT TOTAL ACRES		MMR ACRES IDENTIFIED		MMR ACRES SUSPECTED		MMR ACRES NOT SUSPECTED	
97		97		0		0	
UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE		RIP RC DATE	
12	NAD83	385884	4485553	1/1/1942			

### COMMENT

Storage of munitions to be demilitarized was conducted immediately adjacent to Building 539, on the open ground.

The DSERTS cost-to-complete for this site includes capping the former wastewater pond, and clearing UXO from the ditch leading from the building to the pond. However, the former pond and ditch area represent only a small fraction of the overall area at this site. Cleanup of the other UXO and constituents found at the site are not covered under the DSERTS program.

This area was surveyed in 1994, and over 300 separate probable disposal sites were discovered. In some areas, piles of munitions were found, while in other areas, shallow to deep burial was detected.

Building 539 was primarily in use between the early 1940s and early 1960s, according to documents containing the results of interviews with personnel who worked in the area. The dates included here are estimated based on those dates.

A 50-foot diameter washout holding pond received wastewater from Building 539 via a ditch. The wastewater was generated when the floor of Building 539 was washed down and lead on the floor was carried out to the ditch.

## Range Table

November 2002

RMIS RANGE ID: TEAD-005-R

Interviewees have seen numerous slag and brass piles in the area; some of these are also remnants from the popping furnaces.

TOPOGRAPHY	VEGETATION	SOIL TYPE		
GENTLY ROLLING	LOW GRASS AND FEW SHRUBS	SAND-SILT/SAND-CLAY		
			START YEAR	
CURRENT USE 1	INDUSTRIAL/PRODUCTION FACILITIES		1962	
CURRENT USE 2	N/A			
CURRENT USE 3	N/A			
			START YEAR	END YEAR
HISTORIC USE 1	OTHER		1942	1962
HISTORIC USE 2	N/A			
HISTORIC USE 3	N/A			

**Range Table**

November 2002

RMIS RANGE ID: TEAD-003-R

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	CHEMICAL RANGE	TRANSFERRED	I	C	2

**RANGE DESCRIPTION**

The Chemical Range was formerly used to test pyrotechnics, including smokes, as well as CS and riot gas. Although most of the inactive chemical range is within the installation, this range is the portion of the safety fan that extends just south of the installation boundary. Firing at this range occurred from east to west.

CTT TOTAL ACRES		MMR ACRES IDENTIFIED		MMR ACRES SUSPECTED	MMR ACRES NOT SUSPECTED
9		0		9	0
UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE	RIP RC DATE
12	NAD83	376781.438	4483468.5	1/1/1942	-

**COMMENT**

A 1990s survey of the southern border of TEAD indicated that the southern boundary of the installation extended as much as 500 feet into the adjacent landowner's property. This situation was rectified roughly 2-3 years prior to the date of this report.

According to interviewees, because of this situation, given the fact that the southern boundary of the installation changed, different maps show the range fan completely contained within the installation and at other times extending past the southern boundary of the installation. The current range does not extend outside of the installation, as the firing direction has been slightly altered as well. Both the installation boundary and the range fan have moved to the north.

Documents indicate that this range was used from 1942 to the early 1970s. Although this range still appeared offsite on a 1991 map, it was no longer in use at that time.

TOPOGRAPHY	VEGETATION	SOIL TYPE
GENTLY ROLLING	LOW GRASS AND FEW SHRUBS	SAND-SILT/SAND-CLAY
START YEAR		
CURRENT USE 1	AGRICULTURAL W/O HOUSING	1972
CURRENT USE 2	UNDEVELOPED	1972
CURRENT USE 3	N/A	



## Range Table

November 2002

RMIS RANGE ID: TEAD-003-R

		START YEAR	END YEAR
HISTORIC USE 1	R&D	1942	1972
HISTORIC USE 2	BUFFER AREA	1942	1972
HISTORIC USE 3	N/A		

**Range Table**

November 2002

RMIS RANGE ID: TEAD-002-R

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	NE DEMIL AREA	CLOSED	II	B	2

**RANGE DESCRIPTION**

According to interviewees, a large circular crater in the northeastern portion of the installation was the focal point for an old munitions demilitarization operation. The main crater had a berm approximately 2 to 5 feet high and 15 feet wide. The crater itself was approximately 320 feet in diameter. A bunker located near the crater was likely the control bunker for the demilitarization operations.

CTT TOTAL ACRES		MMR ACRES IDENTIFIED		MMR ACRES SUSPECTED		MMR ACRES NOT SUSPECTED	
626		0		626		0	
UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE		RIP RC DATE	
12	NAD83	384861.219	4489174	1/1/1953			

**COMMENT**

It should be noted that no interviewees had direct first-hand experience with operations at this site.

The range area was generated by taking the standard SDZ for demolition areas and applying it in all directions from the center of the crater. The 3,000 foot radius derived from the SDZs is consistent with assumptions stated in documents surmising the history of this site.

One interviewee who was familiar with demilitarization areas at the installation stated that the area of this crater was not used as a demolition area when he arrived at the installation in 1954. However, the area is identified on 1953 and 1966 historical aerial photographs as a "test area." As a result, those are assumed to be the starting and ending dates of use for this area.

TOPOGRAPHY	VEGETATION	SOIL TYPE		
FLAT	LOW GRASS AND FEW SHRUBS	GRAVEL/GRAVEL-SAND		
			START YEAR	
CURRENT USE 1	UNDEVELOPED		1966	
CURRENT USE 2	N/A			
CURRENT USE 3	N/A			

## Range Table

November 2002

RMIS RANGE ID: TEAD-002-R

		START YEAR	END YEAR
HISTORIC USE 1	OB/OD	1953	1966
HISTORIC USE 2	OTHER	1953	1966
HISTORIC USE 3	N/A		

**Range Table**

November 2002

RMIS RANGE ID: TEAD-001-R

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	OB/OD AREA	TRANSFERRED	I	C	2

**RANGE DESCRIPTION**

A permitted OB/OD area is still in use in the southwest corner of the installation. It has been used since the early 1940s for the destruction of munitions and propellant burning. This transferred range, to the west and south of the OB/OD area outside the installation boundary, includes the area where kickouts from OB/OD disposal detonations were strewn.

One interviewee stated that no kickouts outside the installation boundary have occurred since 1995, and a 1995 document stated that there had been no off-site expulsions off of the OB/OD area since 1990. However, a separate letter from the installation environmental department noted that a metal fragment had landed near a woman riding horseback on adjacent property, due to an explosion. New restrictions on the size of munitions detonated, as well as the total quantity detonated at once, have prevented additional kickouts from occurring. Prior to 1995, as much as 3,000 pounds of munitions per detonation were allowed.

CTT TOTAL ACRES	MMR ACRES IDENTIFIED	MMR ACRES SUSPECTED	MMR ACRES NOT SUSPECTED
478	180	298	0

UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE	RIP RC DATE
12	NAD83	374228.5	4484073	1/1/1942	

**COMMENT**

UXO sweeps have been performed in this area. A 1995 document indicates that 180 acres had been cleared, while 298 acres had yet to be cleared. Interviewees stated that the cleanups were never finished.

The farmer that owns this parcel has been warned not to cultivate certain uncleared portions of the land. Other portions of the land that have been cleared are available for agriculture.

Specific numbers of munitions found in a specific surveyed area were catalogued; however, this cleared portion comprised only a limited portion of this site.

TOPOGRAPHY	VEGETATION	SOIL TYPE
GENTLY ROLLING	LOW GRASS AND FEW SHRUBS	SAND-SILT/SAND-CLAY

## Range Table

November 2002

RMIS RANGE ID: TEAD-001-R

		START YEAR		
CURRENT USE 1	UNDEVELOPED	1995		
CURRENT USE 2	AGRICULTURAL W/O HOUSING	1995		
CURRENT USE 3	N/A			
		START YEAR	END YEAR	
HISTORIC USE 1	BUFFER AREA	1942	1995	
HISTORIC USE 2	OB/OD	1942	1995	
HISTORIC USE 3	N/A			

**Range Table**

November 2002

RMIS RANGE ID: TEAD-004-R

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	OLD BURN AREA	CLOSED	I	C	2

**RANGE DESCRIPTION**

This area, historically used to burn dunnage, was also used to test munitions and to burn explosives and other items at times. There is documented OE and RDX contamination in the area, and metal scrap and shrapnel is in abundance. Burning was primarily conducted in trenches.

CTT TOTAL ACRES	MMR ACRES IDENTIFIED	MMR ACRES SUSPECTED	MMR ACRES NOT SUSPECTED
51	0	51	0

UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE	RIP RC DATE
12	NAD83	380546.313	4483601	1/1/1942	

**COMMENT**

This area is still awaiting cleanup for chemicals and MC's. UXO's remain despite a surface clearance project. Scrap and UXO was collected, burned, and buried nearby.

One document noted that the burning activities started in the early 1940s and were discontinued in the 1970s. The disturbed area and trenches still contain metal debris, spent or destroyed munitions, but they have been filled, graded, and revegetated.

Lead and explosives have been detected in soil samples.

The DSERTS remedy for this area includes removal of some of the UXO, but only an incidental portion in a limited area.

TOPOGRAPHY	VEGETATION	SOIL TYPE
GENTLY ROLLING	LOW GRASS AND FEW SHRUBS	GRAVEL/GRAVEL-SAND

	START YEAR
CURRENT USE 1 UNDEVELOPED	1972
CURRENT USE 2 AGRICULTURAL W/O HOUSING	1972
CURRENT USE 3 N/A	

## Range Table

November 2002

RMIS RANGE ID: TEAD-004-R

		START YEAR	END YEAR
HISTORIC USE 1	OB/OD	1942	1972
HISTORIC USE 2	OTHER	1942	1972
HISTORIC USE 3	N/A		

**Range Table**

November 2002

RMIS RANGE ID:

INSTALLATION NAME	FFID	RANGE/SITE NAME	STATUS	SEVERITY SCORE	PROBABILITY SCORE	RAC SCORE
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA	CLOSED		N/A	

**RANGE DESCRIPTION**

Munitions were temporarily stored in this open, unlined, gravelly depression prior to being burned. It is not known if the stored munitions were palletized. Recent surveys have detected munitions constituents at this site.

CTT TOTAL ACRES		MMR ACRES IDENTIFIED		MMR ACRES SUSPECTED		MMR ACRES NOT SUSPECTED	
2		0		2		0	
UTM ZONE	UTM DATUM	UTM X	UTM Y	CONSTRUCTION DATE		RIP RC DATE	
12	NAD83	380346.219	4483882.5	1/1/1942			

**COMMENT**

An interviewee stated that this area was used in the 1950s and the 1960s, but a document stated that it was used from the early 1940s until the early 1970s, like the Old Burn Area.

The DSERTS remedy for this area is a planned deed restriction to the installation master plan.

This area has been surveyed and found to be clear of UXO and DMM. However, MC still remain. As a result, no munitions are listed in the munitions table for this site.

TOPOGRAPHY	VEGETATION	SOIL TYPE
GENTLY ROLLING	LOW GRASS AND FEW SHRUBS	GRAVEL/GRAVEL-SAND
START YEAR		
CURRENT USE 1	UNDEVELOPED	1972
CURRENT USE 2	N/A	
CURRENT USE 3	N/A	
START YEAR END YEAR		



## Range Table

November 2002

### RMIS RANGE ID:

HISTORIC USE 1 OTHER

1942

1972

HISTORIC USE 2 N/A

HISTORIC USE 3 N/A

## **MUNITIONS**

**Munitions Table**

November 2002

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	BUILDING 539 DISPOSAL AREA			
DODIC	DODIC DESCRIPTION	START DATE	END DATE	MUNITIONS EXPENDED	
CTT38	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	01/1942	01/1962		
CTT01	BOMBS, HIGH EXPLOSIVE	01/1942	01/1962		
CTT42	FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)	01/1942	01/1962		
CTT05	HAND GRENADES, LIVE	01/1942	01/1962		
CTT09	LANDMINES, ANTI-PERSONNEL	01/1942	01/1962		
CTT11	LARGE CALIBER (37MM AND LARGER), HE	01/1942	01/1962		
CTT10	MEDIUM CALIBER (20MM, 25MM, 30MM), HE	01/1942	01/1962		
CTT23	MORTARS, HE	01/1942	01/1962		
CTT44	SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)	01/1942	01/1962		
CTT40	SMALL ARMS (COMPLETE ROUNDS)	01/1942	01/1962		

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	CHEMICAL RANGE			
DODIC	DODIC DESCRIPTION	START DATE	END DATE	MUNITIONS EXPENDED	
CTT02	BOMBS, (SMOKE, WP, INCENDIARY, PHOTOFLASH)	01/1942	01/1972		
CTT42	FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)	01/1942	01/1972		

**Munitions Table**

November 2002

CTT18	HAND GRENADES (SMOKE, WP, INCENDIARY)	01/1942	01/1972
CTT15	PYROTECHNICS	01/1942	01/1972
CTT30	RIOT CONTROL AGENTS	01/1942	01/1972

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	NE DEMIL AREA			
<b>DODIC</b>	<b>DODIC DESCRIPTION</b>	<b>START DATE</b>	<b>END DATE</b>	<b>MUNITIONS EXPENDED</b>	
CTT38	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	01/1953	01/1966		
CTT05	HAND GRENADES, LIVE	01/1953	01/1966		
CTT16	SMALL ARMS	01/1953	01/1966		

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	OB/OD AREA			
<b>DODIC</b>	<b>DODIC DESCRIPTION</b>	<b>START DATE</b>	<b>END DATE</b>	<b>MUNITIONS EXPENDED</b>	
CTT12	AERIAL ROCKETS (LIVE)	01/1942	01/1990		
CTT38	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	01/1942	01/1995		
CTT01	BOMBS, HIGH EXPLOSIVE	01/1942	01/1995		
CTT37	DETONATORS	01/1942	01/1995		
CTT05	HAND GRENADES, LIVE	01/1942	01/1995		
CTT11	LARGE CALIBER (37MM AND LARGER), HE	01/1942	01/1995		
CTT10	MEDIUM CALIBER (20MM, 25MM, 30MM), HE	01/1942	01/1995		
CTT23	MORTARS, HE	01/1942	01/1995		
CTT29	PROPELLANTS (SOLID, LIQUID)	01/1942	01/1995		

**Munitions Table**

November 2002

CTT44	SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)	01/1942	01/1995
CTT16	SMALL ARMS	01/1942	01/1995

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	OLD BURN AREA			
<b>DODIC</b>	<b>DODIC DESCRIPTION</b>	<b>START DATE</b>	<b>END DATE</b>	<b>MUNITIONS EXPENDED</b>	
CTT38	BLASTING CAPS, FUZES, BOOSTERS, OR BURSTERS	01/1942	01/1972		
CTT37	DETONATORS	01/1942	01/1972		
CTT42	FLARES, SIGNALS, SIMULATORS, OR SCREENING SMOKE (OTHER THAN WHITE PHOSPHOROUS)	01/1942	01/1972		
CTT05	HAND GRENADES, LIVE	01/1942	01/1972		
CTT29	PROPELLANTS (SOLID, LIQUID)	01/1942	01/1972		
CTT44	SECONDARY EXPLOSIVES (PETN, COMPOSITIONS A, B, C, TETRYL, TNT, RDX, HMX, HBX, BLACK POWDER, ETC.)	01/1942	01/1972		
CTT16	SMALL ARMS	01/1942	01/1972		

INSTALLATION NAME	FFID	RANGE/SITE NAME			
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA			
<b>DODIC</b>	<b>DODIC DESCRIPTION</b>	<b>START DATE</b>	<b>END DATE</b>	<b>MUNITIONS EXPENDED</b>	
CTT47	NONE				

## **OWNERSHIP**

# Ownership Table

November 2002

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	BUILDING 539 DISPOSAL AREA			Y	DOD	N/A
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	CHEMICAL RANGE			N	FEDERAL AGENCY	U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N



# Ownership Table

November 2002

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	CHEMICAL RANGE			N	STATE AGENCY	STATE OF UTAH
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	CHEMICAL RANGE			N	PRIVATE SECTOR	ELIASON FAMILY
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

INSTALLATION NAME			FFID	RANGE/SITE NAME		ALL ARMY OWNED	OWNER	OWNER DESCRIPTION	
TOOELE ARMY DEPOT			UT213820894	NE DEMIL AREA		Y	DOD	N/A	
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION	LEASE TERMINATED	REVOCATION OF LAND	
N	N	N	N	N	N	N/A		N	



# Ownership Table

November 2002

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	OB/OD AREA			N	LOCAL GOVERNMENT	TOOELE COUNTY
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	OB/OD AREA			N	FEDERAL AGENCY	U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

# Ownership Table

November 2002

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	OB/OD AREA			N	PRIVATE SECTOR	THE ALVIN MATTHEWS AND ELIASON FAMILIES EACH OWN A PORTION OF THIS LAND
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

INSTALLATION NAME			FFID	RANGE/SITE NAME			ALL ARMY OWNED	OWNER	OWNER DESCRIPTION
TOOELE ARMY DEPOT			UT213820894	OLD BURN AREA			Y	DOD	N/A
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION		LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A			N

**Ownership Table**

November 2002

INSTALLATION NAME	FFID	RANGE/SITE NAME		ALL ARMY OWNED	OWNER	OWNER DESCRIPTION		
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA		Y	DOD	N/A		
FEDERAL LEASE FLAG	STATE LEASE FLAG	LOCAL LEASE FLAG	TRIBAL LEASE FLAG	PRIVATE LEASE FLAG	OTHER LEASE FLAG	OTHER LEASE DESCRIPTION	LEASE TERMINATED	REVOCATION OF LAND
N	N	N	N	N	N	N/A		N

## **LAND USE RESTRICTIONS AND ACCESS CONTROLS**

November 2002

**Land Use Restriction Table**

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	BUILDING 539 DISPOSAL AREA	ACCESS CONTROL	FENCES	NPA

**DESCRIPTION:** A FENCE IS AROUND MUCH OF THIS AREA.

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	CHEMICAL RANGE			UPA

**DESCRIPTION:**

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	NE DEMIL AREA			LPA

**DESCRIPTION:**

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	OB/OD AREA			UPA

**DESCRIPTION:**

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	OLD BURN AREA			NPA

**DESCRIPTION:**

INSTALLATION NAME	FFID	RANGE/SITE NAME	RESTRICTION TYPE	RESTRICTION	PUBLIC ACCESS
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA			LPA

**DESCRIPTION:****PUBLIC ACCESS DEFINITIONS**

NPA = No Public Access: The public does not have any access to the range/site.

LPA = Limited Public Access: The public does have some access to the range/site, but that access doesn't involve any digging, only surface access, such as livestock grazing or use as a wildlife preserve or refuge.

RPA = Restricted Public Access: The public does have some access to the range/site and that access may involve some surface disturbance, such as agricultural use, forestry, recreation, and vehicle or supply storage facility use.

UPA = Unrestricted Public Access: There are no restrictions on the use of the range/site (excavation is allowed).

## **RANGE DEMOGRAPHICS**

**Range Demographics Table**

November 2002

INSTALLATION NAME	FFID	RANGE/SITE NAME	TYPE	NAME	STATE	COUNTRY
TOOELE ARMY DEPOT	UT213820894	BUILDING 539 DISPOSAL AREA	COUNTY	TOOELE	UT	UNITED STATES
TOOELE ARMY DEPOT	UT213820894	CHEMICAL RANGE	COUNTY	TOOELE	UT	UNITED STATES
TOOELE ARMY DEPOT	UT213820894	NE DEMIL AREA	COUNTY	TOOELE	UT	UNITED STATES
TOOELE ARMY DEPOT	UT213820894	OB/OD AREA	COUNTY	TOOELE	UT	UNITED STATES
TOOELE ARMY DEPOT	UT213820894	OLD BURN AREA	COUNTY	TOOELE	UT	UNITED STATES
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA	COUNTY	TOOELE	UT	UNITED STATES

## **RMIS SITE INFORMATION**



**RMIS Information Table**

November 2002

INSTALLATION NAME		FFID	RANGE/SITE NAME			RMIS RANGE ID	RMIS SITE ID		ON RANGE FLAG
TOOELE ARMY DEPOT		UT213820894	BUILDING 539 DISPOSAL AREA			TEAD-005-R	TEAD-005-R-01		N
BUFFER AREA	DISPOSAL	OBOD	SMALL ARMS RANGE	SKEET RANGE	TESTING	TRAINING	WASTE MILITARY MUNITIONS	OTHER	OTHER DESCRIPTION
N	Y	N	N	N	N	N	Y	N	N/A
DRINKING WATER	GROUNDWATER DEPTH (FT)		CONSTITUENT FLAG	UXO DENSITY					
UNKNOWN	250		YES	HIGH					
INSTALLATION NAME		FFID	RANGE/SITE NAME			RMIS RANGE ID	RMIS SITE ID		ON RANGE FLAG
TOOELE ARMY DEPOT		UT213820894	CHEMICAL RANGE			TEAD-003-R	TEAD-003-R-01		Y
BUFFER AREA	DISPOSAL	OBOD	SMALL ARMS RANGE	SKEET RANGE	TESTING	TRAINING	WASTE MILITARY MUNITIONS	OTHER	OTHER DESCRIPTION
Y	N	N	N	N	Y	N	N	N	N/A
DRINKING WATER	GROUNDWATER DEPTH (FT)		CONSTITUENT FLAG	UXO DENSITY					
POTENTIAL	300		UNKNOWN	LOW					

**RMIS Information Table**

November 2002

INSTALLATION NAME		FFID	RANGE/SITE NAME		RMIS RANGE ID		RMIS SITE ID		ON RANGE FLAG
TOOELE ARMY DEPOT		UT213820894	NE DEMIL AREA		TEAD-002-R		TEAD-002-R-01		N
BUFFER AREA	DISPOSAL	OBOD	SMALL ARMS RANGE	SKEET RANGE	TESTING	TRAINING	WASTE MILITARY MUNITIONS	OTHER	OTHER DESCRIPTION
N	Y	Y	N	N	N	N	Y	N	N/A
DRINKING WATER		GROUNDWATER DEPTH (FT)		CONSTITUENT FLAG		UXO DENSITY			
POTENTIAL		200		UNKNOWN		LOW			
INSTALLATION NAME		FFID	RANGE/SITE NAME		RMIS RANGE ID		RMIS SITE ID		ON RANGE FLAG
TOOELE ARMY DEPOT		UT213820894	OB/OD AREA		TEAD-001-R		TEAD-001-R-01		N
BUFFER AREA	DISPOSAL	OBOD	SMALL ARMS RANGE	SKEET RANGE	TESTING	TRAINING	WASTE MILITARY MUNITIONS	OTHER	OTHER DESCRIPTION
Y	N	Y	N	N	N	N	Y	N	N/A
DRINKING WATER		GROUNDWATER DEPTH (FT)		CONSTITUENT FLAG		UXO DENSITY			
POTENTIAL		700		UNKNOWN		MEDIUM			

**RMIS Information Table**

November 2002

INSTALLATION NAME		FFID	RANGE/SITE NAME			RMIS RANGE ID	RMIS SITE ID		ON RANGE FLAG
TOOELE ARMY DEPOT		UT213820894	OLD BURN AREA			TEAD-004-R	TEAD-004-R-01		N
BUFFER AREA	DISPOSAL	OBOD	SMALL ARMS RANGE	SKEET RANGE	TESTING	TRAINING	WASTE MILITARY MUNITIONS	OTHER	OTHER DESCRIPTION
N	Y	Y	N	N	N	N	Y	N	N/A
DRINKING WATER	GROUNDWATER DEPTH (FT)		CONSTITUENT FLAG		UXO DENSITY				
POTENTIAL	300		YES		HIGH				

**DSERTS INFORMATION**

**DSERTS Information Table**

November 2002

INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	BUILDING 539 DISPOSAL AREA	TEAD-58	N	N	MR	TEAD-005-R-01
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
RAC		N	N/A				
INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	CHEMICAL RANGE	N/A	N/A	N/A	MR	TEAD-003-R-01
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
N/A		N/A	N/A				
INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	NE DEMIL AREA	N/A	N/A	N/A	MR	TEAD-002-R-01
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
N/A		N/A	N/A				

**DERP ELIGIBILITY:**

MR = Military Munitions Response Program.

IR = Installation Restoration Program.

# DSERTS Information Table

November 2002

INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	OB/OD AREA	N/A	N/A	N/A	MR	TEAD-001-R-01
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
N/A		N/A	N/A				
INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	OLD BURN AREA	TEAD-05	N	N	MR	TEAD-004-R-01
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
RAC		N	N/A				
INSTALLATION NAME	FFID	RANGE/SITE NAME	DSERTS SITE ID	DSERTS CTC INCLUDES UXO-DMM	DSERTS SITE ID HAS BRAC UXO FLAG	DERP ELIGIBILITY	RMIS SITE ID
TOOELE ARMY DEPOT	UT213820894	OLD BURN STAGING AREA	TEAD-28	N	N	IR	N/A
DSERTS PHASE		RESPONSE COMPLETE FLAG	RESPONSE COMPLETE REASON				
N/A		Y	STUDY COMPLETED, NO CLEANUP REQUIRED				

## DERP ELIGIBILITY:

MR = Military Munitions Response Program.

IR = Installation Restoration Program.

## G. RISK ASSESSMENT CODE ANALYSIS

As part of the CTT inventory, the CTT inventory team performed an assessment of explosives safety risk using the RAC process for each range and site with UXO and DMM in the CTT inventory. RAC is a pre-response priority-sequencing tool that does not take clean-up actions into consideration. As designed by the USACE, a site's RAC score is calculated and revised up to the end of the site's investigation as an expression of the explosive risk at the site. The RAC scoring performed under this CTT inventory is based on the munitions used, discarded, or disposed at each CTT military range or site with UXO or DMM, as determined through interviews, site visits, and historic records, and does not reflect any clean-up actions that may have already been performed at the site. Hence, the RAC score may not reflect the current risk at the site. DoD is currently developing a new priority assessment tool for sites with explosive risk. Until the new tool is approved for use, DoD is mandating the use of RAC scoring for the analysis of explosives risk associated with ranges and sites identified during this CTT inventory.

The RAC process requires the completion of a worksheet that consists of a series of questions regarding the range or site. Based on the results of the worksheet, relative values for the severity and probability of explosives safety risk associated with the range or site are assigned. The severity and probability values are then combined to arrive at an overall score (RAC score). The RAC score is an estimate of the relative explosives risk, which is reported as a number between 1 and 5. The following is a description of the RAC scores.

RAC 1 High Explosives Safety Risk - Highest priority for further action.

RAC 2 Serious Explosives Safety Risk - Priority for further action.

RAC 3 Moderate Explosives Safety Risk - Recommend further action.

RAC 4 Low Explosives Safety Risk - Recommend further action.

RAC 5 Negligible Explosives Safety Risk - No explosive related action necessary.

The area, probability value, severity value and overall RAC score for each of the CTT range, UXO and DMM sites in the inventory are provided in Table G-1 below.

**Table G-1: Risk Assessment Code Analysis Results**

INSTALLATION	RANGE NAME	ACRES	SEVERITY*	PROBABILITY**	OVERALL
TOOELE ARMY DEPOT	BUILDING 539 DISPOSAL AREA	97	I	B	1
	CHEMICAL RANGE	9	I	C	2
	NE DEMIL AREA	626	II	B	2
	OB/OD AREA	478	I	C	2
	OLD BURN AREA	51	I	C	2

INSTALLATION	RANGE NAME	ACRES	SEVERITY*	PROBABILITY**	OVERALL
	OLD BURN STAGING AREA	2	N/A	N/A	N/A
* Severity – 5 possible classifications from I (catastrophic) to V (none)					
** Probability – 5 possible classifications from A (frequent) to E (improbable).					

According to the RAC worksheet instructions, if the severity value is V, the probability value does not need to be calculated and a RAC score of 5 should be assigned to the range.

The completed RAC worksheet for each range in the CTT inventory is also included in this section. RAC worksheets were not prepared for MC sites.



## **RISK ASSESSMENT CODE WORKSHEETS**

**RISK ASSESSMENT CODE WORKSHEETS**

TOOELE ARMY DEPOT  
Building 539 Disposal Area

**RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES**

Site Name: Building 539 Disposal Area  
Installation: Tooele Army Depot  
Site Location: Tooele County, UT  
Date Completed: 11/19/02

Rater's Name: Scott Sutton  
Phone Number: 303-763-7188  
Organization: TechLaw, Inc.  
Score: 1

**EXPLOSIVE RELATIVE RISK ASSESSMENT:**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army to assist in the prioritization and sequencing of projects. The risk assessment should be based on the best available information resulting from the data collection effort of the CTT Inventory. This information is used to assess the explosive relative risk involved with the CTT ranges identified in this inventory. The risk assessment is composed of two factors, hazard severity and hazard probability.

**PART I. HAZARD SEVERITY.**

Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

**TYPE OF ORDNANCE: (Circle all that apply) VALUE**

**A. Conventional ordnance and ammunition:**

Medium/large caliber (20mm and larger) - 10

Bombs, explosive - 10

Grenades, hand or rifle, explosive - 10

Landmine, explosive - 10

Rockets, guided missile, explosive - 10

Detonators, blasting caps, fuzes, boosters, bursters - 6

Bombs, practice (w/spotting charges) - 6

Grenades, practice (w/spotting charges) - 4

Landmine, practice (w/spotting charges) - 4

Small arms, complete round (.22 cal -.50 cal) - 1

Small arms, expended - 0

Practice ordnance (w/o spotting charges) - 0

**Conventional ordnance and ammunition (largest single value) 10**

**What evidence do you have regarding conventional unexploded ordnance?**

Documents reporting survey results of the area indicate that these munitions were found there.

---

**B. The Values for Pyrotechnics (for munitions not described above):**

Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) – 10

Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) – 6

Flares, signals, simulators, screening smokes (other 4 than WP) - 4

**Pyrotechnics (select the single largest value) 4**

**What evidence do you have regarding pyrotechnics?**

Documents surveying the area indicate that these munitions were found there.

---

**C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):**

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) - 10

Demolition charges - 10

Secondary explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.) Military dynamite – 8

Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)

**High explosives (select the single largest value) 8**

**What evidence do you have regarding bulk explosives?**

Documents reporting survey results of the area indicate that these munitions were found there.

---

**D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):**

Solid or liquid propellants - 6

**Propellants** 0

**What evidence do you have regarding bulk propellants?**

None.

**E. Chemical Warfare Materiel (CWM) and Radiological Weapons:**

Toxic chemical agents (choking, nerve, blood, blister)

War Gas Identification Sets - 20

Radiological - 15

Riot Control Agents (vomiting, tear) - 5

**Chemical and Radiological (select the single largest value)** 0

**What evidence do you have regarding chemical or radiological?**

None.

**TOTAL HAZARD SEVERITY VALUE (Sum of value A through E (maximum of 61))** 22

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1		
HAZARD SEVERITY*		
DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

\*Apply Hazard Severity Category to Table 3

\*\*If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

## **PART II. HAZARD PROBABILITY.**

The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DOD) site.

### **AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)**

#### **A. Locations of OE hazards**

On the surface - 5

Within tanks, pipes, vessels, or other confined areas - 4

Inside walls, ceilings, or other building/structure - 3

Subsurface - 2

**Location (select the single largest value) 5**

#### **What evidence do you have regarding the location of OE?**

There is interview and document evidence of disposal of lead slag, brass, and UXO in the area adjacent to Building 539. Interviewees reported seeing piles of munitions on the ground surface.

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#### **B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)**

Less than 1,250 feet - 5

1,250 feet to 0.5 mile - 4

0.5 mile to 1.0 mile - 3

1.0 mile to 2.0 Miles - 2

Over 2 miles - 1

**Distance (select the single largest value) 5**

#### **What are the nearest inhabited structures/buildings?**

There are numerous buildings, warehouses and offices located near this site.

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**C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.**

26 and over - 5

16 to 25 - 4

11 to 15 - 3

6 to 10 - 2

1 to 5 - 1

0 - 0

**Number of buildings (select the single largest value) 5**

**Narrative:**

This site was used for the disposal of lead slag, brass and UXO left over from small arms munitions demilitarization activities. Survey reports note a wide variety of other munitions in the area as well. It is not known how these other munitions got to this area.

**D. Types of Buildings (within a 2 mile radius)**

Educational, child care, residential, hospitals hotels, commercial, shopping center - 5

Industrial, warehouse, etc. - 4

Agricultural, forestry, etc. - 3

Detention, correctional - 2

No buildings - 0

**Types of buildings (select the single largest value) 5**

**Describe the types of buildings:**

There are offices, warehouses, residences, cattle ranches, and other buildings located near this site.

**E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:**

No barrier nor security system – 5

Barrier is incomplete (e.g., in disrepair or does not completely surround the site).  
Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. - 4

A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. - 3

Security Guard, but no barrier – 2

Isolated site - 1

A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). - 0

**Accessibility (select the single largest value)   3**

**Describe the site accessibility:**

This site is surrounded by a fence, with a posted sign indicating that the site should not be disturbed without notification of the environmental office.

**F. Site Dynamics.**

This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected - 5

None anticipated - 0

**Site Dynamics (select the single largest value)   0**



Describe the Site Dynamics:

**TOTAL HAZARD PROBABILITY VALUE** (sum of largest values for A through F (maximum of 30)) 23

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability.

**TABLE 2**

<b>HAZARD PROBABILITY</b>		
<b>DESCRIPTION</b>	<b>LEVEL</b>	<b>HAZARD PROBABILITY</b>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\*Apply Hazard Probability Level to Table 3.

**PART III. RISK ASSESSMENT.**

The risk assessment value for this site is determined using the following Table. If the Hazard Severity value is zero (0), a Hazard Probability is not calculated and a RAC score of 5 is automatically assigned to the range or site. Enter the results of the Hazard Probability and Hazard Severity values.

**TABLE 3**

<b>PROBABILITY LEVEL</b>	<b>FREQUENT A</b>	<b>PROBABLE B</b>	<b>OCCASIONAL C</b>	<b>REMOTE D</b>	<b>IMPROBABLE E</b>
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINABLE III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

**RISK ASSESSMENT CODE (RAC)**

<b>RAC 1</b>	High Risk-Highest Priority for further action.
<b>RAC 2</b>	Serious Risk-Priority for further action.
<b>RAC 3</b>	Moderate Risk-Recommend further action.
<b>RAC 4</b>	Low Risk-Recommend further action.
<b>RAC 5</b>	Negligible Risk-Indicates that no DoD action is necessary.

#### **PART IV. NARRATIVE**

Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Several survey documents noted the munitions that are located within this site.  
The evidence regarding distance to various buildings was collected from various maps.

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**RISK ASSESSMENT CODE WORKSHEETS**

TOOELE ARMY DEPOT

Chemical Range

**RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES**

Site Name: <u>Chemical Range</u>	Rater's Name: <u>Scott Sutton</u>
Installation: <u>Tooele Army Depot</u>	Phone Number: <u>303-763-7188</u>
Site Location: <u>Tooele County, UT</u>	Organization: <u>TechLaw, Inc.</u>
Date Completed: <u>11/19/02</u>	Score: <u>2</u>

**EXPLOSIVE RELATIVE RISK ASSESSMENT:**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army to assist in the prioritization and sequencing of projects. The risk assessment should be based on the best available information resulting from the data collection effort of the CTT Inventory. This information is used to assess the explosive relative risk involved with the CTT ranges identified in this inventory. The risk assessment is composed of two factors, hazard severity and hazard probability.

**PART I. HAZARD SEVERITY.**

Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

**TYPE OF ORDNANCE: (Circle all that apply) VALUE**

**A. Conventional ordnance and ammunition:**

Medium/large caliber (20mm and larger) - 10

Bombs, explosive - 10

Grenades, hand or rifle, explosive - 10

Landmine, explosive - 10

Rockets, guided missile, explosive - 10

Detonators, blasting caps, fuzes, boosters, bursters - 6

Bombs, practice (w/spotting charges) - 6

Grenades, practice (w/spotting charges) - 4

Landmine, practice (w/spotting charges) - 4

Small arms, complete round (.22 cal -.50 cal) - 1

Small arms, expended - 0

Practice ordnance (w/o spotting charges) - 0

**Conventional ordnance and ammunition (largest single value) 10**

**What evidence do you have regarding conventional unexploded ordnance?**

Documents reporting survey results of the area indicate that these munitions were found there.

---

**B. The Values for Pyrotechnics (for munitions not described above):**

Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) – 10

Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) – 6

Flares, signals, simulators, screening smokes (other 4 than WP) - 4

**Pyrotechnics (select the single largest value) 10**

**What evidence do you have regarding pyrotechnics?**

Documents reporting survey results of the area indicate that these munitions were found there.

---

**C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):**

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) - 10

Demolition charges - 10

Secondary explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.) Military dynamite – 8

Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)

**High explosives (select the single largest value) 0**

**What evidence do you have regarding bulk explosives?**

None.

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**D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):**

Solid or liquid propellants - 6

Propellants 0

**What evidence do you have regarding bulk propellants?**

None.

**E. Chemical Warfare Materiel (CWM) and Radiological Weapons:**

Toxic chemical agents (choking, nerve, blood, blister)

War Gas Identification Sets - 20

Radiological - 15

Riot Control Agents (vomiting, tear) - 5

**Chemical and Radiological (select the single largest value) 5**

**What evidence do you have regarding chemical or radiological?**

**TOTAL HAZARD SEVERITY VALUE (Sum of value A through E (maximum of 61) 25**

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1 HAZARD SEVERITY*		
DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

\*Apply Hazard Severity Category to Table 3

\*\*If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

**PART II. HAZARD PROBABILITY.**

The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DOD) site.

**AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)**

**A. Locations of OE hazards**

On the surface - 5

Within tanks, pipes, vessels, or other confined areas - 4

Inside walls, ceilings, or other building/structure - 3

Subsurface - 2

**Location (select the single largest value) 5**

**What evidence do you have regarding the location of OE?**

Surveys of the on-installation portion of this range identified both surface and subsurface UXO, and it's assumed that the transferred area has the same characteristics.

**B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)**

Less than 1,250 feet - 5

1,250 feet to 0.5 mile - 4

0.5 mile to 1.0 mile - 3

1.0 mile to 2.0 Miles - 2

Over 2 miles - 1

**Distance (select the single largest value) 2**

**What are the nearest inhabited structures/buildings?**

The nearest inhabited buildings are storage facilities and warehouses.

**C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.**

26 and over - 5

16 to 25 - 4

11 to 15 - 3

6 to 10 - 2

1 to 5 - 1

0 - 0

**Number of buildings (select the single largest value) 3**

**Narrative:**

The range fan is in a fairly remote area of the installation, with only a few scattered buildings nearby.

**D. Types of Buildings (within a 2 mile radius)**

Educational, child care, residential, hospitals hotels, commercial, shopping center - 5

Industrial, warehouse, etc. - 4

Agricultural, forestry, etc. - 3

Detention, correctional - 2

No buildings - 0

**Types of buildings (select the single largest value) 4**

**Describe the types of buildings:**

There are storage facilities, warehouses and agricultural activities within a two mile radius of this site.



**E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:**

No barrier nor security system – 5

Barrier is incomplete (e.g., in disrepair or does not completely surround the site).

Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. - 4

A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. - 3

Security Guard, but no barrier – 2

Isolated site - 1

A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). - 0

**Accessibility (select the single largest value) 5**

**Describe the site accessibility:**

There is no means of access control for this site as it lies on private property.

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**F. Site Dynamics.**

This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected - 5

None anticipated - 0

**Site Dynamics (select the single largest value) 0**

**Describe the Site Dynamics:**

**TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30))** 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability.

**TABLE 2**

DESCRIPTION	HAZARD PROBABILITY	
	LEVEL	HAZARD PROBABILITY
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\*Apply Hazard Probability Level to Table 3.

**PART III. RISK ASSESSMENT.**

The risk assessment value for this site is determined using the following Table. If the Hazard Severity value is zero (0), a Hazard Probability is not calculated and a RAC score of 5 is automatically assigned to the range or site. Enter the results of the Hazard Probability and Hazard Severity values.

**TABLE 3**

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINABLE III	2	3	4	4	5
NEGLECTIBLE IV	3	4	4	5	5

**RISK ASSESSMENT CODE (RAC)**

**RAC 1** High Risk-Highest Priority for further action.

**RAC 2** Serious Risk-Priority for further action.

**RAC 3** Moderate Risk-Recommend further action.

**RAC 4** Low Risk-Recommend further action.

**RAC 5** Negligible Risk-Indicates that no DoD action is necessary.

#### **PART IV. NARRATIVE**

Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Several survey documents noted the munitions that were found within the Chemical Range. The same munitions were assumed to be at the outer edge of the off-site safety fan. The evidence regarding distance to various buildings was collected from maps.

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**RISK ASSESSMENT CODE WORKSHEETS**

TOOELE ARMY DEPOT

NE Demil Area

**RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES**

Site Name: NE Demil Area  
Installation: Tooele Army Depot  
Site Location: Tooele County, UT  
Date Completed: 11/19/02

Rater's Name: Scott Sutton  
Phone Number: 303-763-7188  
Organization: TechLaw, Inc.  
Score: 2

**EXPLOSIVE RELATIVE RISK ASSESSMENT:**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army to assist in the prioritization and sequencing of projects. The risk assessment should be based on the best available information resulting from the data collection effort of the CTT Inventory. This information is used to assess the explosive relative risk involved with the CTT ranges identified in this inventory. The risk assessment is composed of two factors, hazard severity and hazard probability.

**PART I. HAZARD SEVERITY.**

Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

**TYPE OF ORDNANCE: (Circle all that apply) VALUE**

**A. Conventional ordnance and ammunition:**

Medium/large caliber (20mm and larger) - 10

Bombs, explosive - 10

Grenades, hand or rifle, explosive - 10

Landmine, explosive - 10

Rockets, guided missile, explosive - 10

Detonators, blasting caps, fuzes, boosters, bursters - 6

Bombs, practice (w/spotting charges) - 6

Grenades, practice (w/spotting charges) - 4

Landmine, practice (w/spotting charges) - 4

Small arms, complete round (.22 cal -.50 cal) - 1

Small arms, expended - 0

Practice ordnance (w/o spotting charges) - 0

Conventional ordnance and ammunition (largest single value) 10

What evidence do you have regarding conventional unexploded ordnance?

Documents reporting survey results for the area indicate that these munitions were found there.

---

**B. The Values for Pyrotechnics (for munitions not described above):**

Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) – 10

Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) – 6

Flares, signals, simulators, screening smokes (other 4 than WP) - 4

Pyrotechnics (select the single largest value) 0

What evidence do you have regarding pyrotechnics?

None.

---

**C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):**

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) - 10

Demolition charges - 10

Secondary explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.) Military dynamite – 8

Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)

High explosives (select the single largest value) 0

What evidence do you have regarding bulk explosives?

None.

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**D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):**

Solid or liquid propellants - 6

Propellants 0

What evidence do you have regarding bulk propellants?

None.

**E. Chemical Warfare Materiel (CWM) and Radiological Weapons:**

Toxic chemical agents (choking, nerve, blood, blister)

War Gas Identification Sets - 20

Radiological - 15

Riot Control Agents (vomiting, tear) - 5

Chemical and Radiological (select the single largest value) 0

What evidence do you have regarding chemical or radiological?

**TOTAL HAZARD SEVERITY VALUE (Sum of value A through E (maximum of 61) 10**

Apply this value to Table 1 to determine Hazard Severity Category

**TABLE 1  
HAZARD SEVERITY\***

<b>DESCRIPTION</b>	<b>CATEGORY</b>	<b>HAZARD SEVERITY VALUE</b>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

\*Apply Hazard Severity Category to Table 3

\*\*If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

## **PART II. HAZARD PROBABILITY.**

The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DOD) site.

### **AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)**

#### **A. Locations of OE hazards**

On the surface - 5

Within tanks, pipes, vessels, or other confined areas - 4

Inside walls, ceilings, or other building/structure - 3

Subsurface - 2

**Location (select the single largest value) 5**

#### **What evidence do you have regarding the location of OE?**

There is evidence of materials left over from demilitarization activities located near this site.

#### **B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)**

Less than 1,250 feet - 5

1,250 feet to 0.5 mile - 4

0.5 mile to 1.0 mile - 3

1.0 mile to 2.0 Miles - 2

Over 2 miles - 1

**Distance (select the single largest value) 3**

#### **What are the nearest inhabited structures/buildings?**

There are offices and warehouses located within the 0.5 to 1.0 mile radius of this site.



**C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.**

26 and over - 5

16 to 25 - 4

11 to 15 - 3

6 to 10 - 2

1 to 5 - 1

0 - 0

**Number of buildings (select the single largest value) 5**

**Narrative:**

This site is located near a portion of the facility that was disposed of pursuant to BRAC, where there are many maintenance buildings and warehouses.

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**D. Types of Buildings (within a 2 mile radius)**

Educational, child care, residential, hospitals hotels, commercial, shopping center - 5

Industrial, warehouse, etc. - 4

Agricultural, forestry, etc. - 3

Detention, correctional - 2

No buildings - 0

**Types of buildings (select the single largest value) 4**

**Describe the types of buildings:**

There are various storage buildings, offices, revetments and warehouses.

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**E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:**

**No barrier nor security system – 5**

Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. - 4

A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. - 3

Security Guard, but no barrier – 2

Isolated site - 1

A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). - 0

**Accessibility (select the single largest value) 5**

**Describe the site accessibility:**

The site is located in an open field without any kind of barrier or signage indicating the presence of UXO.

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**F. Site Dynamics.**

This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected - 5

**None anticipated - 0**

**Site Dynamics (select the single largest value) 0**

**Describe the Site Dynamics:**

None.

**TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30))** 22

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability.

**TABLE 2**

<b>HAZARD PROBABILITY</b>		
<b>DESCRIPTION</b>	<b>LEVEL</b>	<b>HAZARD PROBABILITY</b>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\*Apply Hazard Probability Level to Table 3.

**PART III. RISK ASSESSMENT.**

The risk assessment value for this site is determined using the following Table. If the Hazard Severity value is zero (0), a Hazard Probability is not calculated and a RAC score of 5 is automatically assigned to the range or site. Enter the results of the Hazard Probability and Hazard Severity values.

**TABLE 3**

<b>PROBABILITY LEVEL</b>	<b>FREQUENT A</b>	<b>PROBABLE B</b>	<b>OCCASIONAL C</b>	<b>REMOTE D</b>	<b>IMPROBABLE E</b>
<b>SEVERITY CATEGORY:</b>					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINABLE III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

**RISK ASSESSMENT CODE (RAC)****RAC 1** High Risk-Highest Priority for further action.**RAC 2** Serious Risk-Priority for further action.**RAC 3** Moderate Risk-Recommend further action.**RAC 4** Low Risk-Recommend further action.**RAC 5** Negligible Risk-Indicates that no DoD action is necessary.

#### **PART IV. NARRATIVE**

Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Several survey documents noted the munitions that were found within this site.  
The evidence regarding distance to various buildings was collected from maps.

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**RISK ASSESSMENT CODE WORKSHEETS**

TOOELE ARMY DEPOT

OB/OD Area

**RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES**

Site Name: OB/OD Area  
Installation: Tooele Army Depot  
Site Location: Tooele County, UT  
Date Completed: 11/19/02

Rater's Name: Scott Sutton  
Phone Number: 303-763-7188  
Organization: TechLaw, Inc.  
Score: 2

**EXPLOSIVE RELATIVE RISK ASSESSMENT:**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army to assist in the prioritization and sequencing of projects. The risk assessment should be based on the best available information resulting from the data collection effort of the CTT Inventory. This information is used to assess the explosive relative risk involved with the CTT ranges identified in this inventory. The risk assessment is composed of two factors, hazard severity and hazard probability.

**PART I. HAZARD SEVERITY.**

Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

**TYPE OF ORDNANCE: (Circle all that apply) VALUE**

**A. Conventional ordnance and ammunition:**

Medium/large caliber (20mm and larger) - 10

Bombs, explosive - 10

Grenades, hand or rifle, explosive - 10

Landmine, explosive - 10

Rockets, guided missile, explosive - 10

Detonators, blasting caps, fuzes, boosters, bursters - 6

Bombs, practice (w/spotting charges) - 6

Grenades, practice (w/spotting charges) - 4

Landmine, practice (w/spotting charges) - 4

Small arms, complete round (.22 cal -.50 cal) - 1

Small arms, expended - 0

Practice ordnance (w/o spotting charges) - 0

**Conventional ordnance and ammunition (largest single value) 10**

**What evidence do you have regarding conventional unexploded ordnance?**

Documents reporting survey results for this site indicate that all of the above were found.

**B. The Values for Pyrotechnics (for munitions not described above):**

Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) – 10

Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) – 6

Flares, signals, simulators, screening smokes (other 4 than WP) - 4

**Pyrotechnics (select the single largest value) 0**

**What evidence do you have regarding pyrotechnics?**

None.

**C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):**

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) - 10

Demolition charges - 10

Secondary explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.) Military dynamite – 8

Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)

**High explosives (select the single largest value) 8**

**What evidence do you have regarding bulk explosives?**

Documents reporting survey results for this site indicated that all of the above were found.

**D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):**

Solid or liquid propellants - 6

**Propellants** 6

**What evidence do you have regarding bulk propellants?**

Documents reporting survey results for this site indicated that all of the above were found.

**E. Chemical Warfare Materiel (CWM) and Radiological Weapons:**

Toxic chemical agents (choking, nerve, blood, blister)

War Gas Identification Sets - 20

Radiological - 15

Riot Control Agents (vomiting, tear) - 5

**Chemical and Radiological (select the single largest value)** 0

**What evidence do you have regarding chemical or radiological?**

None.

**TOTAL HAZARD SEVERITY VALUE (Sum of value A through E (maximum of 61))** 24

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1 HAZARD SEVERITY*		
DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

\*Apply Hazard Severity Category to Table 3

\*\*If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.



## **PART II. HAZARD PROBABILITY.**

The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DOD) site.

### **AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)**

#### **A. Locations of OE hazards**

On the surface - 5

Within tanks, pipes, vessels, or other confined areas - 4

Inside walls, ceilings, or other building/structure - 3

Subsurface - 2

**Location (select the single largest value) 5**

#### **What evidence do you have regarding the location of OE?**

There has been evidence found of the presence of UXO and scrap kickout from OB/OD activities located just inside the installation boundary. Munitions have been found on both the surface and subsurface of this area during cleanup operations.

#### **B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)**

Less than 1,250 feet - 5

1,250 feet to 0.5 mile - 4

0.5 mile to 1.0 mile - 3

1.0 mile to 2.0 Miles - 2

Over 2 miles - 1

**Distance (select the single largest value) 2**

#### **What are the nearest inhabited structures/buildings?**

There are a small number of buildings associated with the OB/OD area that are approximately one to two miles from the installation boundary.

**C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.**

26 and over - 5

16 to 25 - 4

11 to 15 - 3

6 to 10 - 2

1 to 5 - 1

0 - 0

**Number of buildings (select the single largest value) 2**

**Narrative:**

This area is near a remote corner of the facility, with primarily grazing, farm, and undeveloped land in the area. However, there are a very few buildings between one and two miles from the border of this site.

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**D. Types of Buildings (within a 2 mile radius)**

Educational, child care, residential, hospitals hotels, commercial, shopping center - 5

Industrial, warehouse, etc. - 4

Agricultural, forestry, etc. - 3

Detention, correctional - 2

No buildings - 0

**Types of buildings (select the single largest value) 4**

**Describe the types of buildings:**

The buildings lying closest to this area are control and storage buildings associated with the OB/OD area.

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**E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:**

No barrier nor security system – 5

Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. - 4

A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. - 3

Security Guard, but no barrier – 2

Isolated site - 1

A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). - 0

**Accessibility (select the single largest value) 5**

**Describe the site accessibility:**

This area is privately held ranch land, which has no access restrictions.

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**F. Site Dynamics.**

This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected - 5

None anticipated - 0

**Site Dynamics (select the single largest value) 0**

**Describe the Site Dynamics:**

None.

**TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30))** 18

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability.

**TABLE 2**

DESCRIPTION	HAZARD PROBABILITY	
	LEVEL	HAZARD PROBABILITY
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\*Apply Hazard Probability Level to Table 3.

**PART III. RISK ASSESSMENT.**

The risk assessment value for this site is determined using the following Table. If the Hazard Severity value is zero (0), a Hazard Probability is not calculated and a RAC score of 5 is automatically assigned to the range or site. Enter the results of the Hazard Probability and Hazard Severity values.

**TABLE 3**

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY					
CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINABLE III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

**RISK ASSESSMENT CODE (RAC)**

**RAC 1** High Risk-Highest Priority for further action.

**RAC 2** Serious Risk-Priority for further action.

**RAC 3** Moderate Risk-Recommend further action.

**RAC 4** Low Risk-Recommend further action.

**RAC 5** Negligible Risk-Indicates that no DoD action is necessary.

#### **PART IV. NARRATIVE**

Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Several survey documents noted the munitions that have been found within this site. The evidence regarding distance to various buildings was collected from various maps.

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**RISK ASSESSMENT CODE WORKSHEETS**

TOOELE ARMY DEPOT

Old Burn Area

**RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVES (OE) SITES**

Site Name: Old Burn Area  
Installation: Tooele Army Depot  
Site Location: Tooele County, UT  
Date Completed: 11/19/02

Rater's Name: Scott Sutton  
Phone Number: 303-763-7188  
Organization: TechLaw, Inc.  
Score: 2

**EXPLOSIVE RELATIVE RISK ASSESSMENT:**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army to assist in the prioritization and sequencing of projects. The risk assessment should be based on the best available information resulting from the data collection effort of the CTT Inventory. This information is used to assess the explosive relative risk involved with the CTT ranges identified in this inventory. The risk assessment is composed of two factors, hazard severity and hazard probability.

**PART I. HAZARD SEVERITY.**

Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

**TYPE OF ORDNANCE: (Circle all that apply) VALUE**

**A. Conventional ordnance and ammunition:**

Medium/large caliber (20mm and larger) - 10

Bombs, explosive - 10

Grenades, hand or rifle, explosive - 10

Landmine, explosive - 10

Rockets, guided missile, explosive - 10

Detonators, blasting caps, fuzes, boosters, bursters - 6

Bombs, practice (w/spotting charges) - 6

Grenades, practice (w/spotting charges) - 4

Landmine, practice (w/spotting charges) - 4

Small arms, complete round (.22 cal -.50 cal) - 1

Small arms, expended - 0

Practice ordnance (w/o spotting charges) - 0

**Conventional ordnance and ammunition (largest single value) 10**

**What evidence do you have regarding conventional unexploded ordnance?**

Documents reporting survey results of the area indicate that these munitions were found there.

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**B. The Values for Pyrotechnics (for munitions not described above):**

Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) – 10

Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) – 6

Flares, signals, simulators, screening smokes (other than WP) - 4

**Pyrotechnics (select the single largest value) 4**

**What evidence do you have regarding pyrotechnics?**

Documents reporting survey results of the area indicate that these munitions were found there.

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**C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):**

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) - 10

Demolition charges - 10

Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.) Military dynamite – 8

Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)

**High explosives (select the single largest value) 8**

**What evidence do you have regarding bulk explosives?**

Documents reporting survey results of the area indicate that these munitions were found there.

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**D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):**

Solid or liquid propellants - 6

**Propellants** 6

**What evidence do you have regarding bulk propellants?**

Documents reporting survey results of the area indicate that these munitions were found there.

**E. Chemical Warfare Materiel (CWM) and Radiological Weapons:**

Toxic chemical agents (choking, nerve, blood, blister)

War Gas Identification Sets - 20

Radiological - 15

Riot Control Agents (vomiting, tear) - 5

**Chemical and Radiological (select the single largest value)** 0

**What evidence do you have regarding chemical or radiological?**

None.

**TOTAL HAZARD SEVERITY VALUE (Sum of value A through E (maximum of 61))** 28

Apply this value to Table 1 to determine Hazard Severity Category

**TABLE 1  
HAZARD SEVERITY\***

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

\*Apply Hazard Severity Category to Table 3

\*\*If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

## **PART II. HAZARD PROBABILITY.**

The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DOD) site.

### **AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)**

#### **A. Locations of OE hazards**

On the surface - 5

Within tanks, pipes, vessels, or other confined areas - 4

Inside walls, ceilings, or other building/structure - 3

Subsurface - 2

**Location (select the single largest value) 5**

**What evidence do you have regarding the location of OE?**

Survey results have noted munitions both on the surface and buried in subsurface trenches.

#### **B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)**

Less than 1,250 feet - 5

1,250 feet to 0.5 mile - 4

0.5 mile to 1.0 mile - 3

1.0 mile to 2.0 Miles - 2

Over 2 miles - 1

**Distance (select the single largest value) 2**

**What are the nearest inhabited structures/buildings?**

The nearest inhabited buildings are storage facilities and warehouses.

**C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.**

26 and over - 5

16 to 25 - 4

11 to 15 - 3

6 to 10 - 2

1 to 5 - 1

0 - 0

**Number of buildings (select the single largest value) 3**

**Narrative:**

This site is in a fairly remote part of the installation, although some buildings in the maintenance area of the facility are just within two miles of this site.

**D. Types of Buildings (within a 2 mile radius)**

Educational, child care, residential, hospitals hotels, commercial, shopping center - 5

Industrial, warehouse, etc. - 4

Agricultural, forestry, etc. - 3

Detention, correctional - 2

No buildings - 0

**Types of buildings (select the single largest value) 4**

**Describe the types of buildings:**

There are storage facilities, warehouses and agricultural activities within a two mile radius of this site.

**E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:**

No barrier nor security system - 5

Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. - 4

A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. - 3

Security Guard, but no barrier - 2

Isolated site - 1

A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). - 0

**Accessibility (select the single largest value) 5**

**Describe the site accessibility:**

The site is located in the south central part of the installation, near the southern boundary, there are no fences or other access control measures in place.

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**F. Site Dynamics.**

This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected - 5

None anticipated - 0

**Site Dynamics (select the single largest value) 0**

**Describe the Site Dynamics:**

**TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30))** 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability.

**TABLE 2**

<b>HAZARD PROBABILITY</b>		
<b>DESCRIPTION</b>	<b>LEVEL</b>	<b>HAZARD PROBABILITY</b>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\*Apply Hazard Probability Level to Table 3.

**PART III. RISK ASSESSMENT.**

The risk assessment value for this site is determined using the following Table. If the Hazard Severity value is zero (0), a Hazard Probability is not calculated and a RAC score of 5 is automatically assigned to the range or site. Enter the results of the Hazard Probability and Hazard Severity values.

**TABLE 3**

<b>PROBABILITY LEVEL</b>	<b>FREQUENT A</b>	<b>PROBABLE B</b>	<b>OCCASIONAL C</b>	<b>REMOTE D</b>	<b>IMPROBABLE E</b>
<b>SEVERITY CATEGORY:</b>					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINABLE III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

**RISK ASSESSMENT CODE (RAC)**

**RAC 1** High Risk-Highest Priority for further action.

**RAC 2** Serious Risk-Priority for further action.

**RAC 3** Moderate Risk-Recommend further action.

**RAC 4** Low Risk-Recommend further action.

**RAC 5** Negligible Risk-Indicates that no DoD action is necessary.

#### **PART IV. NARRATIVE**

Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Several survey documents noted the munitions that were found within this site.  
The evidence regarding distance to various buildings was collected from various maps.

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## **H. DIGITAL FILES**

A compact disc is attached to this section of the report, which contains the Phase 3 Inventory electronic GIS and map files.

The ARID files have been provided directly to AEC for uploading.

## **I. DOCUMENT LOG**

### **Reports**

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U.S. Army Environmental Center. Tooele Army Depot, Revised Final Remedial Investigation Addendum Report for Operable Units 4, 8, and 9, Volume I. February 1997.

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**Closure Permit for Post Closure Monitoring and Corrective Action of Solid Waste Management Units, Volume II. February 12, 2001.**

## **Maps**

Greiner Aerial Surveys, Sacramento, California. Tooele Army Depot, Master Plan, Aerial Photo Mosaic. June 10, 1985.

Office of the Facilities Engineer. Tooele Army Depot, General Site Map. May 1981.

Office of the Facilities Engineer. Tooele Army Depot, Capital Improvement Program. March 1989.

Office of the Facilities Engineer. Tooele Army Depot, General Site Map. May 1982.

Tooele Army Depot, Public Works. Tooele Army Depot, General Site Map, Existing Conditions, Administrative Area. March 2002.

## **Interviews**

Barrett, Jess. Former Ammunition Safety Officer. Tooele Army Depot.  
Fisher, Larry. BRAC Environmental Coordinator. Tooele Army Depot.  
Jones, Darwin. Demil Supervisor. Tooele Army Depot.  
McFarland, Larry. Restoration Manager. Tooele Army Depot.  
Miller, Jerry. Ammunition Equipment Directorate. Tooele Army Depot.  
Rieper, Robert. Master Planning. Tooele Army Depot.  
Thurston, Robert. Master Planning. Tooele Army Depot.  
Turner, Tom. Environmental Office. Tooele Army Depot.  
Ware, Dorinda. Master Planning. Tooele Army Depot.  
Ware, Tom. Public Works. Tooele Army Depot.  
Woodward, Dave. Rail Operations. Tooele Army Depot.

## J. NOTES

Tab J identifies issues and/or discrepancies found during the CTT Inventory, and also includes a stewardship table as well as responses to comments on the Draft Report.

1. A TNT Washout Pond, Building 1345, was used, until the 1980's, to demilitarize munitions containing TNT. Located behind building 1345, ponds were constructed to collect washout from the demilitarization process. After closure, the ponds were capped to prevent exposure of MC contaminated soil to the elements. The planned remediation effort under DSERTS is to open the capped areas, compost the soil, and return it to the area as backfill. The DSERTS remedy will ultimately remediate all of the MC in the former pond, and there is no UXO or DMM at the site. Furthermore, no known UXO or DMM has been found as a result of the storage of munitions prior to their demilitarization. The remainder of the demilitarization operation was conducted inside the building.
2. Historically, the Less than a Carload (LCL) area at the installation was used only for munitions loading, evaluation, and surveillance. However, one interviewee believed that there was a popping furnace located nearby, as large amounts of lead slugs, brass, and links were found. Another interviewee mentioned that burn pits were used in this area to dispose of munitions. These assertions were not supported by documents or by other interviewees. Because there is no convincing evidence of live munitions being present in the area, this area was not inventoried as a munitions site.
3. The Bomb Washout Pond, Building 1303, was used to wash explosives out of various munitions. The process created a slurry, which was hosed out of the building, where it flowed across a road and collected in a low lying area. The "pond" area, since evaporated, was used inadvertently, as it just happened to be downhill from the washout facility. No ponds were actually constructed. Under DSERTS, a deed restriction will be placed on the area as a means of remedy for the MC in the area. There is no known UXO or DMM in the area. In addition, although munitions were also stored adjacent to Building 1303 in a separate location, no known UXO or DMM has been found as a result of those munitions storage operations. The remainder of the demilitarization operation was conducted inside the building.
4. A sanitary landfill, located to the west of the cantonment area, was used for the disposal of white phosphorus at some time in the past, according to a former employee. However, other interviewees, current Tooele employees, stated that sampling was done in and around the area of the landfill, and that no white phosphorus or other munitions were found. In addition, others were interviewed about what was placed in the landfill, and none of the other interviewees recalled munitions being buried in the landfill.
5. A former Skeet Range was located in the non-A/I area of the installation. However, interviewees agreed that it was used solely for recreational purposes.

6. The OB/OD Area and the Chemical Range overlapped. The OB/OD Area was judged to have more severe munitions based on the fact that the severity of the munitions are approximately equal in the two sites, but that most of the munitions in the overlapping area are likely due to operations that occurred in the OB/OD Area.
7. One parade ground, one rifle range, and one pistol range in the non-A/I portion of the installation were determined to be still active. These areas were reported to AEC.
8. It was assumed that the starting year for the current land use of various ranges and sites was the same as the end use of the range or site.

## Stewardship Table

November 2002

### Natural and Cultural Resources:

INSTALLATION	RANGE/SITE NAME	FFID	SPECIAL STATUS SPECIES	CULTURAL RESOURCES
TOOELE ARMY DEPOT	BUILDING 539 DISPOSAL AREA	UT213820894		
TOOELE ARMY DEPOT	CHEMICAL RANGE	UT213820894		
TOOELE ARMY DEPOT	NE DEMIL AREA	UT213820894		
TOOELE ARMY DEPOT	OB/OD AREA	UT213820894		
TOOELE ARMY DEPOT	OLD BURN AREA	UT213820894		
TOOELE ARMY DEPOT	OLD BURN STAGING AREA	UT213820894		

## DOCUMENT REVIEW RECORD

**DOCUMENT PREPARER:** TechLaw, Inc.

**DOCUMENT TITLE:** US Army CTT Range/Site Inventory, Tooele Army Depot

The following provides TechLaw's response to comments received from the U.S. Army Environmental Center and the U.S. Army Corps of Engineers – Sacramento District (USACE). To provide for consistency between the comments and responses, the numbers used in the original comments document are referenced below.

**REVIEWED BY:** U.S. Army Corps of Engineers – Sacramento District

**REVIEWER:** Dennis Potter

Comment Number	Section, Paragraph, Page	REVIEWER COMMENT	PREPARER RESPONSE
1.	General	The following comments were generated from the review of the Tooele Army Depot Draft CTT report dated September 2002.	No response required.
2.	General	This and all of the CTT reports that I have reviewed have been very well organized and written. Good job.	No response required.
3.	Tab J	Please do not put the site specific abbreviation / acronym list back in the "J" section. Do add the list as a second page to the acronym list in the front or clue the reader in the front acronym list that there is an additional list in section "J".	Concur. The site-specific abbreviation and acronym list has been moved to the front of the report, following the main acronym list.
4.	Tab J	Please consider referencing the information in section "J" to the main body of the report.	The notes included in Tab J of this report do not relate closely to any other specific items addressed earlier in the report. Tab J notes are intended to provide a space for additional information that does not fit easily into the rest of the report. Accordingly, it is not information that is easily referenced to other parts of the report. No change necessary.



REVIEWED BY: U.S. Army Environmental Center

REVIEWER: Mary Ellen Maly

Comment Number	Section, Paragraph, Page	REVIEWER COMMENT	PREPARER RESPONSE
1.	Page D-1, CTT Range and Site Summaries	Each site description should include as summary of the munitions types found at the site. Table D-2 shows many specific munitions types for each range/site listed. Instead of saying something like "a variety of conventional and other munitions" were used at the site, as you do in the Building 539 Disposal Area write-up, provide a more specific summary of the Table D-2 munitions in the write-up. However, it is not recommended to repeat all Table D-2 munitions in the write-up.	Concur. The description of each range or site in Tab D has been altered so that the munitions are described more fully, as suggested by this comment.
2.	Page D-1, Building 539 Disposal Area	Based on my personal knowledge of this site, I was not aware that all the munition types listed in Table D-2 were supposedly at the site. I knew the site as a lead smelting operation that functioned during WW2. Since you scored this site as a RAC 1 site, please verify that this site does indeed have the potential to contain all the munitions listed.	The source documents regarding this site were revisited, and it was determined that hand grenades, bombs, fuzes, mortars, smokes, medium and large caliber munitions, small arms, secondary explosives, and land mines were all in fact found during investigations of this munitions site. No evidence of primary explosives or aerial rockets was found in the source documents, and those two munitions categories have been eliminated. Over the years, the site had been used for disposal of a variety of munitions from around the installation.
3.	Page D-2, Chemical Range	The write-up states that "chemical" munitions were tested in this area. Please DO NOT use the term "chemical" unless there are toxic chemical agents	Concur. The term "chemical" has been changed to "smokes" in the range description. The description in Tab D has

<b>REVIEWED BY:</b> U.S. Army Environmental Center <b>REVIEWER:</b> Mary Ellen Maly			
Comment Number	Section, Paragraph, Page	REVIEWER COMMENT	PREPARER RESPONSE
	Range	involved. Instead, use the term "smoke". However, as "Chemical Range" is this site's known name, it may be used. Also, the write-up states the site is "undeveloped", but Table D-3 lists the site as "agricultural w/o housing". Please correct the discrepancy.	also been changed to reflect the fact that the area is used for grazing purposes.
4.	Page D-2, OB/OD Area	On lines 1 and 5, suggest you delete the word "range" and replace with "disposal site". Also, it is not clear from your write-up that the actual OB/OD activities occurred on-post and that this site includes only the blowouts from that demil operation.	The word "range" has been changed to "disposal site" in the two noted lines. A sentence stating that the OB/OD kickouts are the only known source of munitions in this area has also been added to the description, as has language that makes it clear that the OB/OD activities have taken place on site.
5.	Page D-3, Chemical Range	Under Historic Use, "Testing" is not a valid ARID entry. Use "R&D" instead.	Concur. "Testing" has been changed to "R&D" in the "Historic Use" tab for this range. This error was a result of invalid values being incorporated in the entry tool. This issue has been resolved in the ARID entry tool.
6.	Page D-5, Old Burn Staging Area	Under Munitions Types, "Null" is not a valid Munitions ID description. Use "None" instead.	Concur. "Null" has been changed to "None" for this tab.
7a.	Page D-6, Table D-3	As of a couple of years ago, a Marine Reserve Unit was using Building 539. The site is also on the fringe of the built up cantonment area. Thus, suggest you re-evaluate its Current Use (i.e., change from	Concur. The "Current Use" of this site has been changed to "Industrial/Production Facilities."

**REVIEWED BY:** U.S. Army Environmental Center

**REVIEWER:** Mary Ellen Maly

Comment Number	Section, Paragraph, Page	REVIEWER COMMENT	PREPARER RESPONSE
		"Undeveloped" to either "Maintenance Facilities" or "Industrial/Production Facilities".	
7b.	Page D-6, Table D-3	Either delete the "Agricultural w/o Housing" entry for the Chemical Range or add this land use to the site's write-up on page D-2.	The fact that this land is used for agricultural/grazing purposes has been added to the range description in Tab D.
7c.	Page D-6, Table D-3	Suggest you add "Agricultural w/o Housing" under Current Use for the Old Burn Area since you stated in its write-up that it is used for grazing.	Concur. This current use has been added.
8.	Page D-7, Table D-5	Sites that are deemed to be "IR" eligible <u>DO NOT</u> get either an RMIS Range ID or an RMIS Site ID. Delete "TEAD-005-R" and "TEAD-005-R-01" from this table and renumber the remaining entries.	Concur. The RMIS number, as well as the RMIS information, has been deleted for the Old Burn Staging Area, and the other ranges and sites have been renumbered so that there are no gaps in the numbering system.
9.	ARID Tables, RMIS Information Table, Page 3 of 3, Old Burn Staging Area	Only ranges/sites that are MR eligible should be included on this table (if the DERP eligibility is either IR or Other, this information should not be provided).	Concur. The RMIS number, as well as the RMIS information, has been deleted for this site.